State and Local Government Market, 2000 Through 2005

Market Trends

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Chapter 1
Executive Summary

The state and local government marketplace is experiencing historic change. Public sector organizations across the country are developing new, innovative solutions to help transform their relationships with the citizenry, the business community and other government agencies.

Information technology lies at the very heart of this transformation, enabling governments to connect with their constituents as never before. In particular, e-government not only has become a tool to provide powerful, enhanced solutions to the public, but also has become a key strategic weapon for governors and political leaders to trumpet. E-government has increased the importance of information technology (IT) dramatically.

This report includes the following:

- Examine major business issues shaping the marketplace (business of government, devolution, focus on customer service, departure of state CIOs and so forth)
- Assess the top technology priorities in the marketplace (e-government, application service providers [ASPs], outsourcing and so forth)
- Forecast the size of the state and local government marketplace (total IT spending, spending by budget component, spending by solutions and so forth)
- Address the competitive landscape
- Provide recommendations for strategic positioning in the marketplace

Some of the key highlights in this report include:

- More than 75 percent of respondents have an e-government initiative.
- Spurred by strong governor support, the direction of e-government implementation is focused on the government to citizen (G2C) category.
- The leading agency segments and business processes ripe for e-government implementation are revenue (tax filing), motor vehicles (driver license), and general services (procurement, permitting and licensing).
- The emergence of transaction-based or "pay as you go" contract models has generated a significant demand for ASP-type services.
- Total IT spending in the state and local government marketplace is forecast to reach $42.63 billion in 2000 and to grow to $59.43 billion by 2005. Spending is expected to grow annually by 7 percent.

Chapter 2
Market Overview

Building on federal mandates, service to the citizen and interagency data sharing initiatives, state and local governments continue to redesign and re-engineer service delivery and their business processes. Emphasizing private sector principles, such as increased efficiency, customer service and revenue enhancement, governments have leveraged private sector solutions and applied them to a public sector market with its own unique set of drivers and trends. As a result, the public sector marketplace is in the process of coming into its own, with some of the larger agency segments leading the way as they grapple with fundamental business issues. The following are examples:

- Given their centralized role in jurisdictions, administration and finance, agencies continue to take the lead on implementing IT initiatives, such as the creation of new e-procurement tools.
- State human services agencies have been shifting their populations from the welfare rolls in the aftermath of welfare reform legislation and have been examining the IT infrastructure needed to manage and track that transition. The new Temporary Aid to Needy Families (TANF) program combined with redesigned food stamp and Medicaid programs have created more streamlined approaches to benefit delivery.
- Public safety / criminal justice agencies continue to push for a more integrated, efficient information flow to agencies with interrelated business processes. Increasingly, the focus is on the overall process, not simply the individual steps of law enforcement, justice and corrections.

Most importantly, state and local governments have realized the integral part that IT has in their ability to transform their objectives into real solutions. Rather than simply utilizing technology to automate rote functions, state and local government agencies now rely on IT to provide innovative solutions to old problems. Leading governments, in particular, have started pushing the envelope in terms of the scope and ambition of projects and thus served as a model for other government agencies. In the past couple of years, the state and local government arena has witnessed major shifts in the application of IT. Among them:

- The rapid adoption of e-government solutions
- The implementation of customer-driven, online transaction services
- The creation of streamlined services for the business community
- The utilization of enterprise applications to focus on entire business processes rather than narrow agency requirements
- The development of major outsourcing initiatives

This report will examine the forces driving new IT implementation and provide a framework to understand the future role and directions of IT in the state and local government marketplace. This report includes updates and analyses on leading areas of opportunity, including e-government, ASPs, outsourcing, telecommunications and networking, and enterprise applications. Gartner Dataquest highlights existing implementations and applications of IT solutions, as well as emerging opportunities, to best delineate the true opportunity.

Report Scope and Methodology

The state and local government market is one of the largest and most decentralized IT markets in the United States; it consists of all 50 states, approximately 19,000 municipalities and 3,200 counties. Moreover, the market comprises hundreds of governmental agencies spread out across the nation, each tasked with specialized responsibilities.

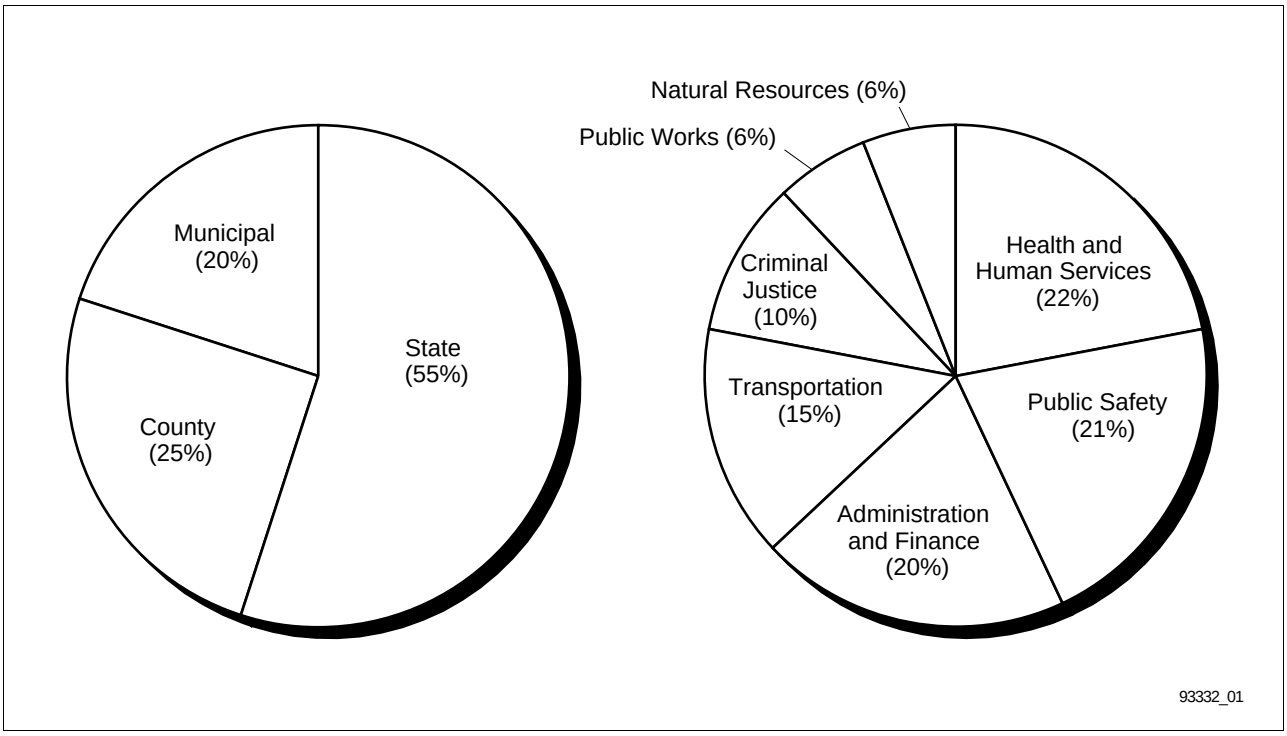
To comprehensively analyze this market, Gartner Dataquest segments the market according to those agencies that share a set of common characteristics and responsibilities. Gartner Dataquest has identified the following agencies as the leading market segments for IT:

- Administration and finance
- Transportation
- Public safety
- Human services
- Health
- Criminal justice
- Natural resources / environment
- Public works

Gartner Dataquest conducts extensive primary and secondary research in the state and local government marketplace. On an ongoing basis, Gartner Dataquest's target sample of interviews includes MIS directors, CIOs and business line officials within all 50 states as well as the top 100 counties and municipalities. The top 100 counties and municipalities are defined as those with the highest populations. Gartner Dataquest has seen a strong correlation between population and revenue, and therefore, the amount of spending on IT.

Since 1991, Gartner Dataquest has interviewed more than 1,800 IT executives in the top state, county and municipal government agencies throughout the United States. Over the past year, Gartner Dataquest interviewed more than 250 IT executives within the state and local government marketplace. Please refer to Figure 2-1 for a breakout of the interviews according to both level of government and agency segment.

Figure 2-1
Composition of State and Local Government Interviews



Source: Gartner Dataquest (November 2000)

Market Overview

During each interview, Gartner Dataquest collects quantitative data concerning IT budgets, information workload processing distribution, emerging technologies and recently completed projects. The interviews also provide qualitative information on key market trends and drivers, acquisition and procurement policies, vendor selection criteria, barriers to systems implementation and application requirements. Although each interview is tailored to the specific segment and agency, Gartner Dataquest utilizes a numerical rating scale for many questions to more accurately compare, contrast and measure interview responses.

Market Forecasts

Budget allocations and project spending data collected during these interviews are the basis of Gartner Dataquest' s state and local government market forecasts. The state and local government IT budgets and growth are built from the data, and include hardware, software, internal and external services and miscellaneous spending. From the IT total, Gartner Dataquest develops agency application forecasts by validating average project values, average project duration and likely project frequency and breaking out the market segment spending accordingly.

In addition, Gartner Dataquest's market forecasts are supplemented by secondary research and further verified by supply-side data. Gartner Dataquest' s forecasts are intended to provide valuable insight into the state and local government IT marketplace and are best utilized for relative market sizing and comparative functions. The forecasts provide the vendor community with a sense of magnitude rather than the strict, absolute size of the market.

Competitive Analysis

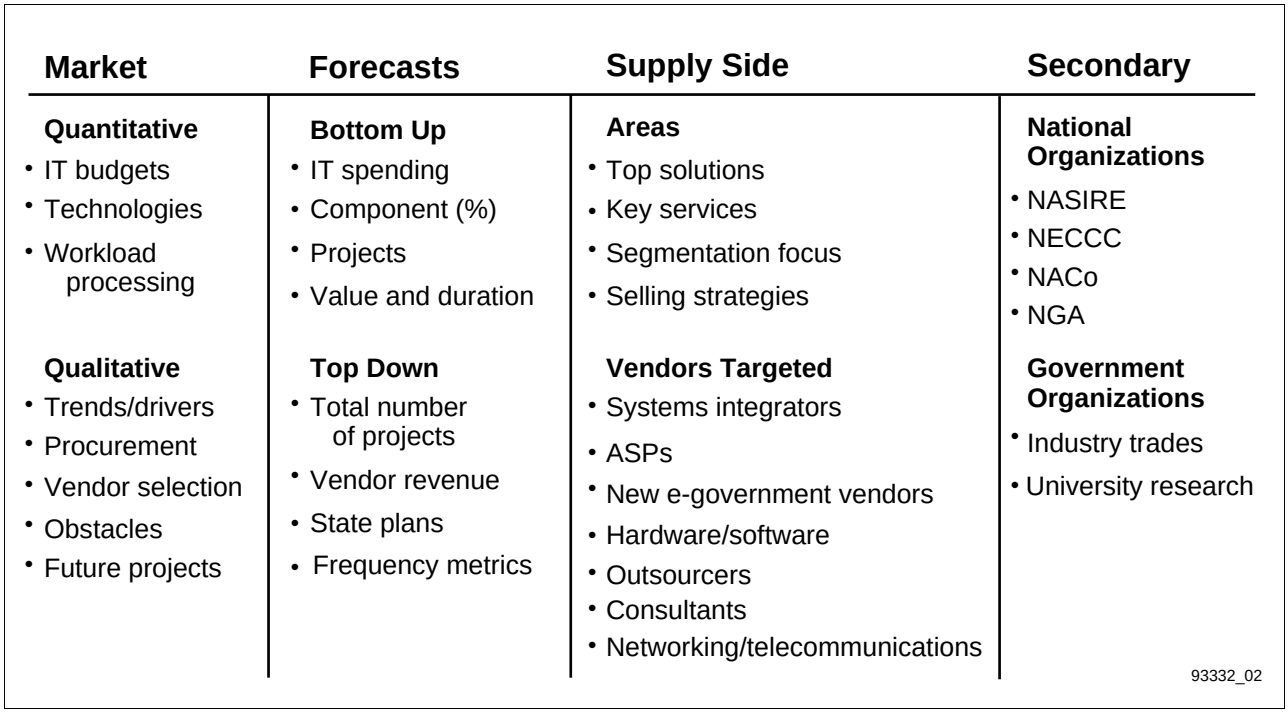
In addition to the demand-side research, Gartner Dataquest also surveys senior business development executives in the leading service companies and hardware and software firms that target the state and local government marketplace. Gartner Dataquest maintains extensive contacts throughout the marketplace — from the largest systems integrators to specialized niche firms.

The supply-side research provides validation for the demand-side research in that it provides an illustration of what the vendors are selling to the end users and where they believe investment trends lie in the future.

Secondary Sources

Finally, Gartner Dataquest utilizes a vast array of secondary research to supplement the information gleaned from both the supply and demand side of the market (see Figure 2-2). In particular, Gartner Dataquest tracks information distributed by the National Association of State Information Resource Executives (NASIRE), the National Association of Counties (NACo) and the National League of Cities. The U.S. General Services Administration (GSA), the U.S. General Accounting Office (GAO), and other federal agencies also provide integral research material, as do industry trade journals.

Figure 2-2
Research Methodology



Source: Gartner Dataquest (November 2000)

Definitions

- **ASP** — ASPs provide remote hosting services that include the hardware, software and, in some cases, networking infrastructure to enable customers to run standardized applications externally over an Internet Protocol-enabled network via a subscription-based outsourcing contract. What truly distinguishes an ASP offering from hosted or managed applications by traditional IT outsourcers is that the ASP model delivers standard application to multiple users without customization. In other words, it is a one-to-many proposition. Moreover, the ASP model is defined as the pre-implementation management of applications. Under this definition, an external service provider that assumes the management of applications already implemented within a client's organization is not functioning as an ASP.
- **E-government —** The transformation of public sector internal and external relationships through net-enabled operations, IT and communications to optimize government service delivery, constituency participation and governance
- **Disintermediation** — The practice of providing services directly to the customers without the participation of the government
- **Enterprise resource planning (ERP) and enterprisewide applications —** ERP solutions are those designed to integrate multiple facets of the business through the interchange of information from various business process areas and related databases. Core ERP applications include those designed to support general corporate administration functions, such as finance and accounting, and human resources. Process-specific ERP applications are utilized in conjunction with core applications to effectively add operational and front-office functionality. These applications are typically configured to support discrete business process areas, such as product development and management, sales and service delivery, and customer relationship management (CRM).

Evolution of Information Technology

Gartner Dataquest has seen three major waves of IT development by state and local governments. This section will attempt to characterize the first two major waves of IT development as well as outline the next major wave of technology implementation and utilization. Increasingly, the level of IT development has enabled state and local government agencies to extend the amount of information to a greater array of government workers and individual citizens.

Mainframe Dominance: Back Office

In the early days of computing (1960 through 1980), government agencies utilized centralized mainframes and dumb terminals almost exclusively. Information was processed in the back office, where large MIS staffs maintained specialized mainframe applications to store data and generate reports. The power of information was controlled by a select group of employees, and the ability to share and transmit information across the entire government enterprise was an impossible task. In most cases, citizens were routed through several organizations, multiple sites and different personnel to complete major transactions. Technology was often viewed as a cost center, sapping valuable government resources that could be more effectively applied elsewhere.

PC Revolution: Employee at Desktop

In the 1980s, the personal computer became a relatively inexpensive way to bring the power of information to a broad array of state and local government employees. As prices continued to drop and performance continued to increase, personal computers proliferated through state and local governments. Ratios of workers to computers have dramatically changed over this period, moving from a standard of 30:1 to a present day 2:1 or even 1:1. Given this significant change, solutions utilized by state and local governments evolved as well. Increasingly, solutions centered on the empowerment of employees in the field (social workers, police officers and so forth) to access information and conduct transactions. The power of IT was brought to every desktop. Increasingly, IT was viewed as a tool to improve service delivery, resolve questions quickly and empower a broad array of government personnel.

This distribution of information to a greater array of personnel helped state and local government agencies keep pace with increasing demands for customer service by the citizenry. Sparked by leaps of innovation from the financial services and retail industries, constituents have demanded similar levels of service, accessibility and value from their own public services programs.

Customer Transactions: Citizen to Government

Public sector organizations are building the next wave of development. These IT solutions are based on empowering individual customer groups to complete transactions independently of government involvement. The power of the Internet and the development of online solutions provides customers with a window into government that is open 365 days a year, 24 hours a day.

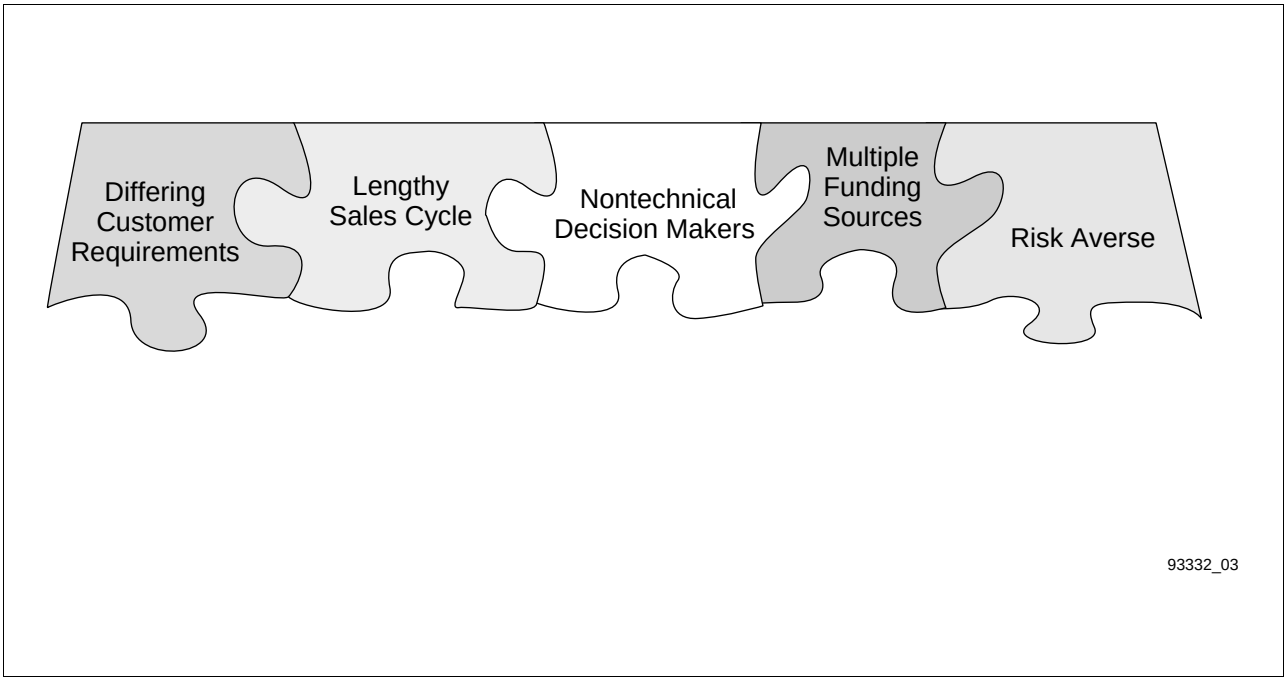
E-government is shaping the new relationships that agencies will have with their customers in the future. Already, there are a number of initiatives under way that transform the way businesses and citizens interact with government. In particular, a number of G2C applications (tax filing, driver license, permits and so forth) have created new channels of service delivery that promise to reinvent how agencies and citizens interact. The same can be said for the host of government to business (G2B) applications (procurement, permits, filings) that are creating new delivery channels in this segment as well. For a more detailed discussion of e-government initiatives, please refer to the first section in Chapter 3.

Account Behavior

Traditional Account Characteristics

In contrast to the private sector, there are a number of specific industry characteristics that differentiate the state and local government marketplace (see Figure 2-3). These characteristics provide valuable insight to help vendors understand the uniqueness of the marketplace as well as develop effective penetration strategies. This section will explore the general characteristics that define the marketplace.

Figure 2-3
Traditional Account Characteristics



Source: Gartner Dataquest (November 2000)

Centralized MIS vs. Independent Agencies

The state and local government market can be segmented by two major points of IT acquisition: centralized MIS departments and independent agencies. Both groups serve different roles in the procurement and distribution of IT goods and services. The decision makers and key influencers for each area also differ.

Centralized MIS

Historically, the centralized MIS department has been the major point of IT acquisition to support data center operations and help independent agencies where appropriate. Central MIS will also provide application development and systems management services, with agencies paying for such services via charge backs. Finally, central MIS is responsible for standards development and managing large, jurisdiction-wide projects. The key influence within central IT departments is typically the CIO. At the local level, the actual decision may fall to the City Council or similar governing body.

Independent Agencies

In contrast, independent agencies tend to require solutions to provide services to their unique customer base. As a result, IT implementation is often tailored to the more narrowly defined mission and goals of the specific agency. For example, revenue departments utilize integrated tax systems while correction agencies implement inmate tracking systems. The primary decision maker within independent agencies for major systems tends to be the actual agency director, though this individual will likely be guided by the agency' s MIS director.

Increasingly, centralized agencies are the guiding force for the jurisdiction's IT plans and strategies. These agencies will set baseline requirements to ensure standardization of IT products and services. These agencies will also tend to procure the hardware and telecommunications services utilized for horizontal applications across the governmental enterprise, whereas independent agencies procure more customized solutions to fulfill the requirements of their particular interest.

Agency types will often have different roles depending on the size of the jurisdiction. For example, independent agencies at the state level often work directly with IT vendors. However, at the local government level, centralized agencies typically play a much broader role. Since most of the technology resource within smaller localities are confined to the centralized agency, this department will be active in the entire procurement process, from identifying needs and scoping requirements to evaluating proposals and vendor selection.

Sources of Information Technology Funds

Although funding for IT projects is almost always perceived to be scarce, state and local government agencies have three major sources to which to turn: general funds, federal grants and IT bonds.

General Funds

General funds are allocated by the Legislature or City Council to cover independent agencies' operating and MIS budgets. This will typically include spending on personnel, equipment maintenance, general hardware procurement and basic software requirements. However, funding for large IT projects are often submitted independently and must be approved by the Legislature through a separate vote. The telecommunications and networking budget may also be included in the general funds, although often these expenses are shared with the central telecommunications division or data center within a jurisdiction. Moreover, for larger projects or implementations, the funding is often allocated separately.

Federal Grants

To spur the development of certain state and local government IT solutions, the federal government often provides matching funds or outright grants to agencies. Typically, the federal grants represent a major impetus for state and local government agencies across the nation to implement a common solution, such as child welfare systems. However, given the effect of government devolution and block grant funding, the total amount of federal grants will decrease over the next five years. However, because of increased spending flexibility under block grant programs, the percentage spent on IT may actually increase. The areas of most robust federal funding are in human services and transportation, where the federal government has issued block grants for the states' discretion.

Information Technology Bonds

In another display of the growing importance of IT solutions within the state and local government marketplace, some jurisdictions have offered bonds to raise funds for IT development. In Massachusetts, for example, the state passed two IT bonds totaling more than $400 million to provide an alternative source of funding for major IT projects. These bond measures have been the primary sources of funds for the state's largest and most ambitious projects.

Risk Averse

Taxes fund the operations of state and local government. As a result, public sector organizations tend to be highly risk averse, focusing on proven IT solutions rather than gravitating to bleeding-edge technology. The overwhelming majority of agencies seek demonstrated solutions that provide functionality now. In the past, failed IT projects have created major scandals and, as a result, increased oversight on project management and quality assurance. One of the fastest areas of growth is oversight vendors that are hired to keep the primary vendors in check on large-scale IT projects.

Extended Sales Cycle

In contrast to other vertical markets, the sales cycle for IT solutions in the state and local government marketplace can often last between 18 and 24 months. In many ways, the acquisition process of state and local government agencies reflects the highly administrative, bureaucratic nature of government itself. Moreover, IT projects must also meet the appropriate budgetary and funding guidelines. All of these factors combined add to the delay associated with most government sales engagements. In some cases, the length of the sales cycle has been sharply reduced when vendors provide more innovative contracting options, such as business benefit-based contracts. Additionally, several states such as Michigan, Texas, California and Virginia have made concerted efforts to abbreviate the sales cycle through major procurement reform measures.

Nontechnical Decision Makers

In many cases, particularly at the local level, individuals that have final approval on IT projects that go out for bid often do not have the technical expertise to understand and evaluate the specific benefits of many IT solutions. Additionally, governments have established a number of "mixed" procurement committees, which are comprised of both technical and nontechnical members. Moreover, the increasing involvement of political and business line officials in the rollout of e-government initiatives creates another group of nontechnical decision makers. As a result, vendors must find alternative and often creative ways to educate key decision makers on how the implementation of a particular IT solution will affect the bottom line. In preparing sales presentations, vendors must do the following:

- Outline the business reasons to implement a major IT solution
- Target the final business lines and political decision makers, not just the MIS director
- Ensure that both the agency director and the MIS director understand and appreciate the benefits of the proposed solution

Although all of these issues are important public sector characteristics, Gartner Dataquest has seen a number of these issues become less pronounced. In particular, e-government has altered some of the traditional account behaviors. For example, state governors who are proactive in the development of e-government solutions have been able to galvanize diverse stakeholder groups (thereby reducing the sales cycle), spearhead the development of G2C solutions (thereby ensuring these projects are funded), and create new reporting structures for state CIOs to gain cabinet-level status (thereby combining differing agency requirements into one cohesive vision).

IT Governance and Strategic Planning

As state and local governments recognize the growing importance of IT in their daily business, they are increasingly engaging in IT strategic planning initiatives to better direct their investments and resources enterprisewide. To properly target the public sector marketplace, vendors must understand how various agencies and jurisdictions approach their IT strategy. There are three IT governance innovations being pursued today by governments, which are the following:

- The appointment of a CIO
- The establishment of IT task forces
- The formation of public / private sector IT governance committees

CIOs

The majority of states have installed CIOs to provide enterprisewide leadership and direction on IT initiatives. Forty-six states have CIOs, usually reporting directly to the office of the governor or lieutenant governor in the state. Larger cities are also installing CIOs to guide IT planning for local agencies and departments. CIOs are integral to IT strategy and are a critical point of influence for the vendor community.

However, the CIO position is increasingly a transitory one. Over the past year, at least 13 public sector CIOs have left their long tenures in government to join the private sector. A few of the high-profiled departures include:

- Rick Webb — In July, Webb announced he will be leaving his position as CIO for North Carolina to join PricewaterhouseCoopers. Webb will become managing director for the firm's state and local government practice. Earlier in the year, Webb had been honored as the "CIO of the Year."
- John Kelly — As the CIO for Arizona, John Kelly directed a number of innovations in state technology development. Kelly led the state to adopt new e-government services and was integral to shaping the technology strategy for the state. He recently left this position to become a market manager at Intel.
- P.K. Agarwal — Former CIO for the California Franchise Tax Board, Agarwal left the state to become executive vice president for e-government applications at NIC. Agarwal was a major figure among public sector CIOs and was the past chairman of the National Electronic Commerce Coordinating Council.
- Mark Badger — In April, Badger announced he will leave his post as CIO for Alaska to join Cisco Systems. Badger will become an advocate of e-government development with Cisco' s Internet Business Solutions group.

The departure of public sector CIOs can create significant upheaval in the implementation of IT solutions. Already faced with a growing skills shortage and a greying of the MIS staff, the departure of a CIO only adds fuel to a major problem. In the end, state and local governments need to adopt to methods of recruiting, retaining and rewarding CIOs and MIS staff.

Task Forces

In addition to, or in place of CIOs, a number of states are utilizing task forces comprised of technical personnel from various agencies and departments to guide statewide IT re-engineering efforts. This arrangement is better suited to decentralized states such as Texas and New York, where it would be difficult for one individual to coordinate and lead numerous state agencies. Task forces have the advantage of representing a cross-section of state agencies and coordinating multiple constituencies.

New York, with more than 80 state agencies, has historically had a decentralized government structure. State leaders in the past had difficulty reorganizing IT governance into a centralized system so New York chose to forgo the traditional CIO model for a more facilitative and collaborative structure. The Task Force on Information Resource Management was created as the state's central coordinating body for technology. The director of the task force reports to the director of state operations, who oversees all agency heads and reports directly to the governor. The task force is comprised of a steering body of state information resource management (IRM) directors, as well as an office staffed with personnel on loan from various state agencies.

Public/Private Committees

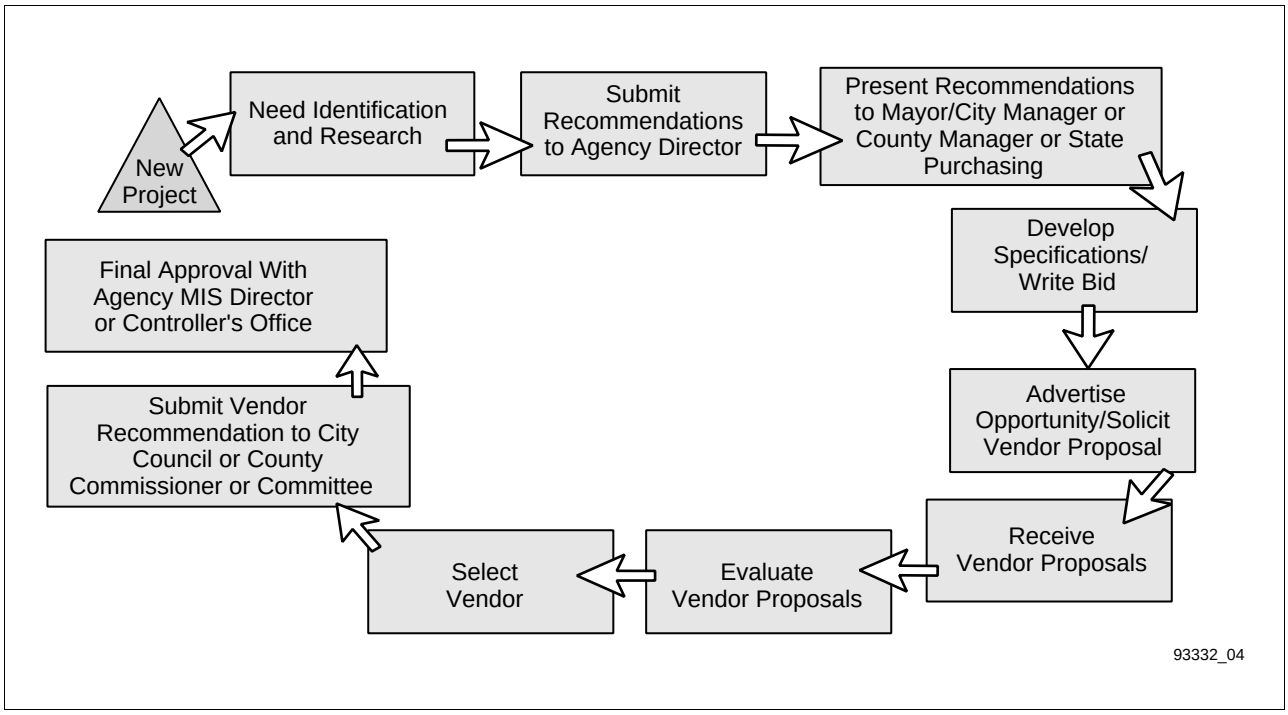
To gain private sector perspective on IT strategic planning, some states have established private sector councils at the heart of their IT governance infrastructures. For example, Virginia has long relied on the input of these councils to help guide IT strategy. The council is a part of Virginia's revamped technology organization. Virginia has received a lot of praise for creating a new technology secretary and linking this organization, led by Don Upson, directly to the governor. The committee is also at the forefront of helping Virginia create new e-government initiatives, state branding campaigns and infrastructure to build a technology state.

Decision-Making and Procurement Process

Procurement Process

As illustrated in Figure 2-4, the procurement process within the state and local government marketplace consists of a number of key and distinct steps. In most cases, vendors are alerted to new opportunities when state and local government agencies release a request for proposal (RFP) (step 4). The type of project involved, however, will determine when vendors should enter the sales cycle. Bid response based on the RFP is satisfactory for commodity-based purchases, where product specifications and price are largely the determinants of vendor selection. However, if the RFP is solutions-driven, vendors must position themselves much earlier in the decision-making process to effectively influence the account before the development of the RFP. This strategic positioning and identification of new project requirements before RFP development is essential to continued success in this highly competitive marketplace.

Figure 2-4
Acquisition Process



Source: Gartner Dataquest (November 2000)

Vendors should also be aware that often RFPs at the state and local government level can be considered vague, with the specifications, terms and conditions not fully outlined. However, Gartner Dataquest has found that many government agencies are revising their procurement methods to reflect the dynamic and rapidly evolving IT market. Instead of using a static RFP to specify a particular or pre-defined solution to a problem, increasing numbers of state and local agencies are using RFPs to define the problem, taking into account the possibility that many different solutions exist. Instead of the standard RFP, state and local agencies are issuing simplified outcome-based solicitations that allow vendors to help identify and design desired solutions.

This new process has given vendors more flexibility in addressing the agencies' needs by allowing them to apply their particular strengths and capabilities to a problem and not just replicate pre-set specifications. Vendors should be aware of the focus teams within agencies that are convened to identify IT needs, problems or re-engineering opportunities. These teams, which are composed primarily of technical staff from within the agency or from the city or state MIS office, conduct their evaluations and make recommendations to the agency's MIS or to the agency director. By lending technical assistance to these groups, or even spurring their creation, vendors may help agencies identify problems sooner, emphasize the importance of issues they may have overlooked, and generally have a hand in which solutions will be favored. In this way, vendors proactively create opportunities for their products and services.

In many ways, new procurement processes also enable vendors to establish more innovative ways to fund a project. In contrast to the old fixed-price or time / materials contracts, vendors are now building proposals based on transaction costs or "pay as you go" fees.

Emerging Procurement Initiatives

State and local governments are modifying their procurement practices to be more streamlined and flexible. In many ways, new procurement processes also enable vendors to establish more innovative ways to fund a project. In contrast to the fixed-price or time / materials contracts of the old, vendors are now building proposals based on transaction costs or "pay as you go" fees. Governments are also entering into partnerships with private sector vendors to obtain the IT products and ongoing services they need in the most cost-effective manner.

Streamlined Procurement

To take full advantage of falling prices and increasing performance capabilities of certain types of hardware and software products, state and local governments are acting to streamline their procurement processes. They are looking to leave behind the days when elaborate competitive bid processes and product specifications would delay acquisition of IT products so much that when these products arrived, they were already obsolete and overpriced.

The Internet has facilitated the ease in which RFPs may be procured. A number of governments are undertaking efforts to apply Internet technology to the procurement process to increase the efficiency and flexibility of the process. As a result, price and product information are easily accessible to vendors, agencies, schools and nonprofit organizations.

Flexible Solicitation

State and local agencies normally submit such detailed specifications for IT solutions that IT vendors end up just replicating these specifications to qualify. This process precludes the possibility that other types of solutions may exist that are better suited to tackle the original problem. State and local agencies are now creating simplified outcome-based solicitations that allow vendors to apply their creativity in designing solutions. In reviewing these solutions, agencies take into account the following:

- Best value — Cost is often the overriding factor for state and local agencies partnering with private sector vendors. However, as agencies increase their reliance on IT and become more sophisticated in procurement, other factors, such as vendor reliability and reputation, life cycle cost of equipment, and measurable improvement in service delivery afforded by the solution, become greater factors.
- Timeliness — With federal mandates, matching grants and block grants, projects typically must be completed by certain time milestones. Agencies must often weigh the time to implement a project with available funding mechanism and service delivery requirements.

- Burden on the agency — Agencies have become aware that the implementation of a solution is just part of the cost. Ongoing maintenance, ability to integrate with other systems and scalability issues are also key cost components. Agencies are now able to review these criteria in addition to just the price tag for implementation.
- Compliance with overall agency objectives — With the new e-government initiatives, proposed solutions will often have to comply with a much broader vision for the jurisdiction.

Public Private Partnerships

State and local governments are partnering with the private sector to try to improve efficiency, acquire expertise and ease the financial burden of increased responsibilities. They are becoming more flexible in establishing strategic alliances for longer time periods to benefit from continuing technical and managerial assistance. The availability of this expertise often has value that extends beyond original product and service specifications.

The California Franchise Tax Board formed a strategic partnership with two qualified vendors (AMS and Andersen Consulting) to re-engineer its tax collection system. In contrast to the traditional method of posting detailed bid specifications, the tax board pre-screened vendors, then presented those qualified with a statement of its problem and asked for responses in the form of workable solutions. The vendor was first selected, then the contract negotiated. The tax board financed the project from the new revenue and savings generated by the automation. For one of the three systems acknowledged under this partnership, the state reports that returns were five times higher than forecast, and the project was completed in four months rather than the typical period of 18 to 24 months for projects of comparable size.

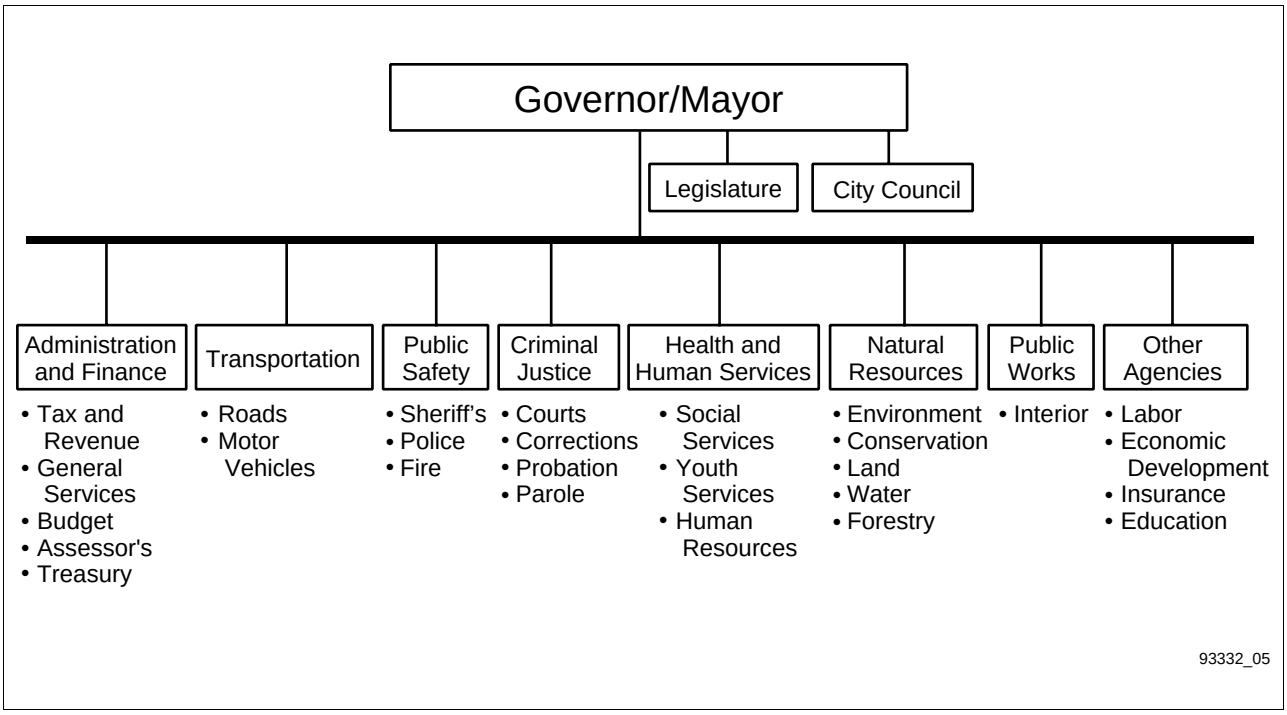
Flexible Solicitation Processes

States such as Michigan often utilizes negotiations rather than competitive bidding to greatly reduce the amount of time required to procure IT services. Michigan uses the RFP to describe the problem, as opposed to the solution, to allow competing firms the flexibility to develop innovative approaches to the problem. To complement this process, the state has generalized its project criteria to make it easier to compare the differing solutions offered by the vendors. These approaches often then use "best and final offer" criteria to finalize negotiations.

Organizational Structure

Generally, the state and local government marketplace can be segmented (see Figure 2-5). The primary driver of IT development (particularly at the municipal and county level) is the general services market segment. This segment consists of agencies, such as general services, administration and finance, tax and revenue, assessor's and so forth, and primarily controls the purse strings of government operations. As a result, the general services market segment is often seen as the centerpiece of the government marketplace.

Figure 2-5
Government Organizational Structure



Source: Gartner Dataquest (November 2000)

However, in addition to this market segment, Gartner Dataquest has identified seven other market segments, which have their own unique IT requirements, priorities and budgets. The largest market segments include health services, human services, public safety and transportation. The remaining market segments are criminal justice, natural resources and public works. Each of these market segments represent significant areas of opportunity for IT vendors.

Increasingly, Gartner Dataquest continues to witness greater synergy among these distinct market segments. The need to provide enterprise-wide solutions and inter-agency data sharing has facilitated IT implementation across market segments. In many ways, e-government has truly required jurisdictions to provide enterprise (cross-agency) functionality, particularly in the area of e-procurement.

In contrast to the historically narrow focus of specific market segment IT development, a number of agencies as well as jurisdictions are working together to implement wide-ranging solutions that focus on specific business processes. For example, the demand to streamline and facilitate information sharing among public safety, corrections, and criminal justice agencies have sparked the implementation of Criminal Justice Information System (CJIS) solutions. Gartner Dataquest believes this cross-agency IT development centered around a specific business process will continue over the next few years.

Market Environment and Trends

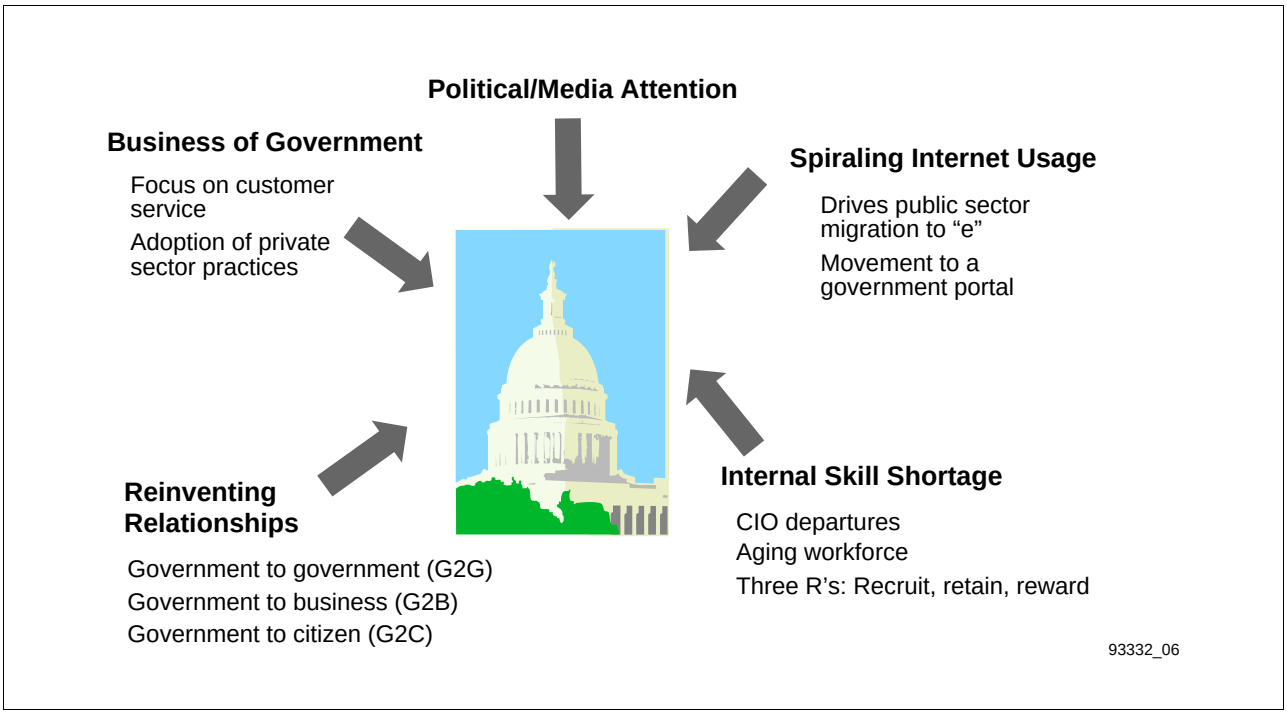
Presently, state and local governments are facing a number of critical business issues that is dramatically shaping the implementation of IT solutions. In many respects, these business issues have forced state and local government agencies to become more innovative with the use of IT solutions. The following describes some of the leading business issues:

- Business of government. Over the past 10 years, public sector organizations have been embracing private sector principles to transform the way government agencies work. These organizations are adopting metrics for efficiency, utilizing new criteria for procurement, and focusing on how decisions will affect the bottom line.
- Devolution. Increasingly, the federal government has enabled state and local government agencies to create new, innovative public sector programs that can be tailored to the needs of the local community rather than adhering to strict federal guidelines. This has been most notable in the human services segment, where agencies have crafted new programs based on state-specific requirements. Gartner Dataquest has also seen the impact of devolution in other agency segments, such as transportation, natural resources and public safety.
- Focus on customer service. Citizens have demanded the same level of customer service from public sector organizations as they have come to expect from traditional private sector firms. Consequently, state and local government agencies have adapted new ways of interacting with the public and providing a higher level of service to the customer. E-government will further this goal as agencies provide online functionality that enables customer groups to not only access information quickly, but also complete transactions from the convenience of the home or the office. The rapid adoption of G2C solutions underscores the rising importance of customer service in the public sector marketplace.
- Departure of state CIOs. The departures of CIOs from states such as North Carolina, Arizona, Alaska, California and so forth have had a dramatic effect on the marketplace. Many of these individuals were industry leaders, pushing state and local governments to adopt IT and helping shape the way public sector organizations will interact the defined customer groups in the next century. This may create roadblocks on the way to transforming the relationships between governments and their defined customer groups.
- IT skills shortage. In addition to the departure of high-profile technology executives within the public sector, these organizations also face extreme difficulties in recruiting, retaining and rewarding MIS personnel. The dearth of qualified personnel in the private sector has created a bidding war in which most government agencies cannot compete. Some states, such as Virginia, Washington and Kentucky, have created new programs to attract qualified MIS staff. Also, many of the existing MIS staff are nearing retirement, creating a double hit for the agencies.

- Demand for information. Governments obtain and store a vast amount of information on the citizenry. In the past, however, all of this data was siloed in stovepiped systems and program-specific information systems. As state and local government become more customer-centric and create a holistic approach to the citizen, these barriers must come down. Agencies increasingly need to work with one another to be more effective in their own duties. For example, there has been a substantial increase in data sharing among law enforcement and human services agencies as these departments track down deadbeat parents and unlicensed child care centers.

Figure 2-6 describes the market trends and drivers.

Figure 2-6
Market Trends and Drivers



Source: Gartner Dataquest (November 2000)

Agency Overviews

In examining the state and local government marketplace, vendors must also be aware of the agency- specific business issues and technology trends. This section will highlight some of the major market drivers and technology trends in each major agency segment.

Administration and Finance

The largest segment, the departments of administration and finance have wide-ranging responsibilities in the marketplace, from general services and administration to tax collection and property assessment. Administration and finance agencies typically set the strategic IT direction for the jurisdiction and, consequently, is a focal point for new technology initiatives (e-government, outsourcing, enterprise applications).

To that extent, this agency segment is leading the e-government charge. Driven by an increased demand for government services, need to coordinate information sharing and streamlined business processes, administration and finance agencies are implementing e-procurement, Internet tax filing, e-permitting and online licensing solutions (see Figure 2-7). Some other technology trends include selective outsourcing initiatives, convergence of IT and telecommunications requirements, and utilizing performance-based contracts.

Clearly, the focus of technology spending in this market segment will be dominated by e-government. From the e-procurement initiatives (Washington, Maryland, Massachusetts) to tax filing (Indiana, Illinois, Kentucky) to permitting / licensing (Virginia, North Carolina), there are a significant amount of opportunities in the marketplace today. The key differentiation for vendors will be the portfolio of solution capabilities as well as the development of alternative channels (for example, ASP) for the mid-markets.

Transportation

The market segment actually can be viewed through three separate lenses: transportation, motor vehicles and public works. As a result, the responsibilities in this agency segment range from transportation infrastructure to the provision of licenses to the maintenance of the local street signs.

With new Intelligent Transportation Systems (ITS) legislation, IT development within the transportation segment is on the upswing. The focus has predominantly been on the implementation of electronic toll systems and video enforcement systems. Departments of motor vehicles have rapidly embraced the Web as states across the nation are building online functionality for drivers' licenses, registration and renewal. Local public works agencies are still focused on utilizing core technologies, such as geographic information system (GIS), to support daily business operations.

Figure 2-7
Trends in Administration and Finance

Drivers
- Increased demand for services
- Coordinated communication between agencies
- Ineffective resource management
- Customer service
- Streamline IT procurement

Trends
- Emergence of enterprise/selective outsourcing initiatives
- New ERP applications
- Convergence of IT and telecommunications responsibility
- Performance-based budgeting and measurable outcomes
- Focus on e-government projects to provide greater customer service
- Focus on e-procurement to improve purchasing efficiency

Dataquest Perspective
- Administration and finance represents the largest agency segment and often sets the strategic direction for the jurisdiction.
- Administration and finance is a major focal point for new technology initiatives (for example, e-government, outsourcing, ERP).
- Innovative contract vehicles (for example, performance sharing) may provide a significant upside for specific applications (for example, tax collection).

93332_07

Source: Gartner Dataquest (November 2000)

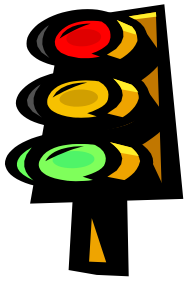
Transportation is a dynamic market segment. The demand for new ITS systems and the overhaul of departments of motor vehicles underscore the significant changes and spending taking place in this segment. In many respects, these agencies are in the process of building the next generation of IT solutions and transforming the way the agencies interacts with their customers (see Figure 2-8). Examples of these new trends include Los Angeles County, California's Smart Corridor and the Web initiatives in the motor vehicle departments in Arizona and Virginia.

Human Services

Human services agencies continue to experience dramatic change. Welfare reform legislation, the introduction of TANF programs and the development of state-specific charters have transformed the organization and business focus on many social service agencies. The new emphasis within these organizations is on time limits, roll reduction, job training and coordinated management.

With these new business objectives, human service agencies are focusing on the integration of social and employment services, developing enterprise eligibility determination and verification systems, rollout of electronic benefits transfer (EBT) service, and child welfare / care systems (see Figure 2-9). Instead of just focusing on benefit distribution, these focus on the transition from welfare to work, eliminate fraud and waste, and focus on children's issues to erase the cycle of poverty.

Figure 2-8
Trends in Transportation



Drivers

- Authorization of TEA-21 legislation ($217.5 billion)
- Congestion and accidents, including the economic cost of traffic
- Aging transportation infrastructure, repairs/replacement needed
- Increased focus on shifting the burden of transportation costs to user fees
- Reorganizing DMV procedures to be more customer friendly

Trends

- New funding ($275 million) for ITS projects
- Focus on the replication of successful ITS programs such as Smart Corridor and CHART
- Initiatives for electronic toll collection and video enforcement
- Implementation of Web-based DMV applications
- Utilization of imaging and digital photo technologies

Dataquest Perspective

- Transportation should be viewed through three separate lenses: DOTs, DMVs, DPWs.
- ITS bids are extremely complex and require close alliances with engineering companies.
- DMV provides increasing opportunity for next-generation applications for driver's licenses, renewals, and so forth.

93332_08

Source: Gartner Dataquest (November 2000)

Figure 2-9
Trends in Human Services

Drivers

- Compliance with Welfare Reform Act
- New emphasis: Time limits, self-sufficiency, conditional entitlement
- Promotion and focus on the family unit
- Devolution: Responsibilities of states increase, while the resources remain constant

Trends

- Integration of social and job services
- Joint eligibility determination/new intake system
- Coordinated case management
- Implementation of EBT services
- Outsourcing and privatization
- Outcomes management
- Fraud prevention and detection

Dataquest Perspective

- Demand from human services agencies for integrated, open systems both within and across various agencies.
- Advanced tracking systems will be needed because of time limits imposed by new laws.
- Areas such as eligibility determination, fraud prevention, child welfare and electronic benefits transfer are major areas of continuing investment.

93332_09

Source: Gartner Dataquest (November 2000)

Given this new market environment, human services agencies will require new technology development that is based on integrated, open-systems functionality rather than mirror the traditional stovepipe approach. Solutions such as enterprise eligibility determination and case management that are customer centered, not program specific, are likely to be key components of the next phase of IT development. A more coordinated effort across states will also likely occur as new information sharing increases and defined customers are tracked. It appears as though newer technology initiatives such as e-government may take a longer period of development to properly understand how to best utilize web functionality.

Health

Like the human services organization, departments of health are also in a state of tremendous change. With the responsibility to ensure healthcare for defined populations, the two largest program areas are Medicaid and Medicare; these agencies must interface closely with the private sector as well as adhere to the changes set forth by the federal government.

Some of the key trends taking shape include the rapid shift toward managed care programs, utilization of health outreach programs and telemedicine initiatives (see Figure 2-10). In particular, Medicaid and Medicare are in a state of flux, struggling with fundamental issues of cost containment, provision of services to remote populations, and changing demographic patterns. Health agencies seek to provide a higher degree of preventive health programs and encourage overall changes in health behavior.

Departments of health will continue to require solutions that focus on enrollment, eligibility determination and fraud prevention. Another key area of focus will be on the administration of vital records information. This market segment will increasingly rely on data warehousing and outsourcing to improve service delivery. E-government will also bring much-needed outreach to business and citizen groups. However, like human services, this market segment will require more time to fully understand how to best utilize this new technology.

Public Safety and Justice

These two market segments run the full range of law enforcement, courts and corrections agencies with the state and local government marketplace. Public safety and justice agencies are increasingly working together to ensure that the entire process of arrest, conviction, incarceration and parole becomes seamless. Improved emergency response times, faster processing of court caseloads and expansion of correctional institutions have driven the need for newer IT solutions.

The major trend taking shape is the utilization of IT across the entire business process. Integrated justice systems that provide case management functionality for the police, courts and corrections is in high demand (see Figure 2-11). Individually, the continuing integration of computer-aided dispatch / record management system (RMS) solutions plus added functionality through automatic vehicle locator (AVL), automated fingerprint identification system (AFIS) and other technologies is vital for public safety agencies. Courts and corrections both view the continuing automation of their facilities to be central to improving stagnant business processes. Other key trends include the tracking of sexual offenders, focus on juvenile justice and gun-control registration.

Figure 2-10
Trends in Health

Drivers
- Cost containment
- Reduce data duplication, improve standardization, increase access to data
- Ties to private healthcare facilities
- Provide healthcare services to remote populations

Trends
- Migration of FFS to managed care programs
- Expansion of outsourcing related services
- Increased integration with retail and private healthcare programs
- Health outreach programs
- Telemedicine initiatives

Dataquest Perspective
- Data warehousing has become an important area of new technology development.
- Public sector telemedicine programs are often more ambitious/effective than the private sector.
- Medicare and Medicaid continue to focus on enrollment, eligibility verification and fraud prevention.

93332_10

Source: Gartner Dataquest (November 2000)

Figure 2-11
Trends in Public Safety and Justice

Drivers
- Need for data sharing and compatible systems
- Emergency response and communications
- Courts: Increased caseload volumes and backlog
- Corrections: Growing offender population, expanding inmate requirements (for example, HIV testing)

Trends
- Push for database integration and systems and data standardization
- Consolidation of dispatch centers and outsourcing likely in future
- Court management and need for scheduling flexibility
- Innovative use of technology (AFIS, CJIS, CAD) to improve basic business processes

Dataquest Perspective
- Public safety and criminal justice are high-profile, politically sensitive market segments that will always receive necessary funding.
- CJIS/ICJIS initiatives are on the rise, creating an enterprise approach for police, justice and correctional facilities.
- Increasing focus on gun control may spur additional levels of IT development (data warehousing).

93332_11

Source: Gartner Dataquest (November 2000)

These market segments have always been high profile and received a significant amount of funding. In many ways, improved crime statistics has reduced the attention to these segments. However, the enterprise approach to safety and justice issues will continue to receive funding and attention over the next five years. E-government will also play a critical role, providing greater crime information and access to court records to the citizenry.

Chapter 3
Technology Trends

The state and local government IT marketplace has historically been quite straight-forward. Agencies relied on mainframe-based applications to support general business processes. The update and rollout of these applications was the primary IT objective. However, over the past three years, there have been several new waves of IT implementation that has provided innovative wrinkles to the marketplace:

- ERP — In 1997 and 1998, there was a significant amount of focus by state and local government agencies on the implementation of ERP applications. These solutions promised the ability to bring an enterprise approach to technology implementation and management of resources. Core ERP applications replaced legacy financial and human resources systems as well as created new partnerships within the vendor community.
- Outsourcing — In 1998 and 1999, outsourcing was undoubtedly the No. 1 IT issue. After years of rejection, outsourcing was finally gaining acceptance in the state and local government marketplace. All eyes focused on the high-profile initiatives in Connecticut, Pennsylvania and San Diego County, California. Despite the success and failures of these projects, the intense focus in outsourcing has been eclipsed by another technology trend: "e"
- E-government — Clearly, e-government is the technology topic of the day and will continue to be at the top of technology priorities for public sector organizations for the next two years. E-government is creating a revolution in IT development and is promising to transform the very nature of government. The focus on government-to-citizen solutions represents the vast power the Internet can bring to this marketplace.

E-Government: The Time Is Now

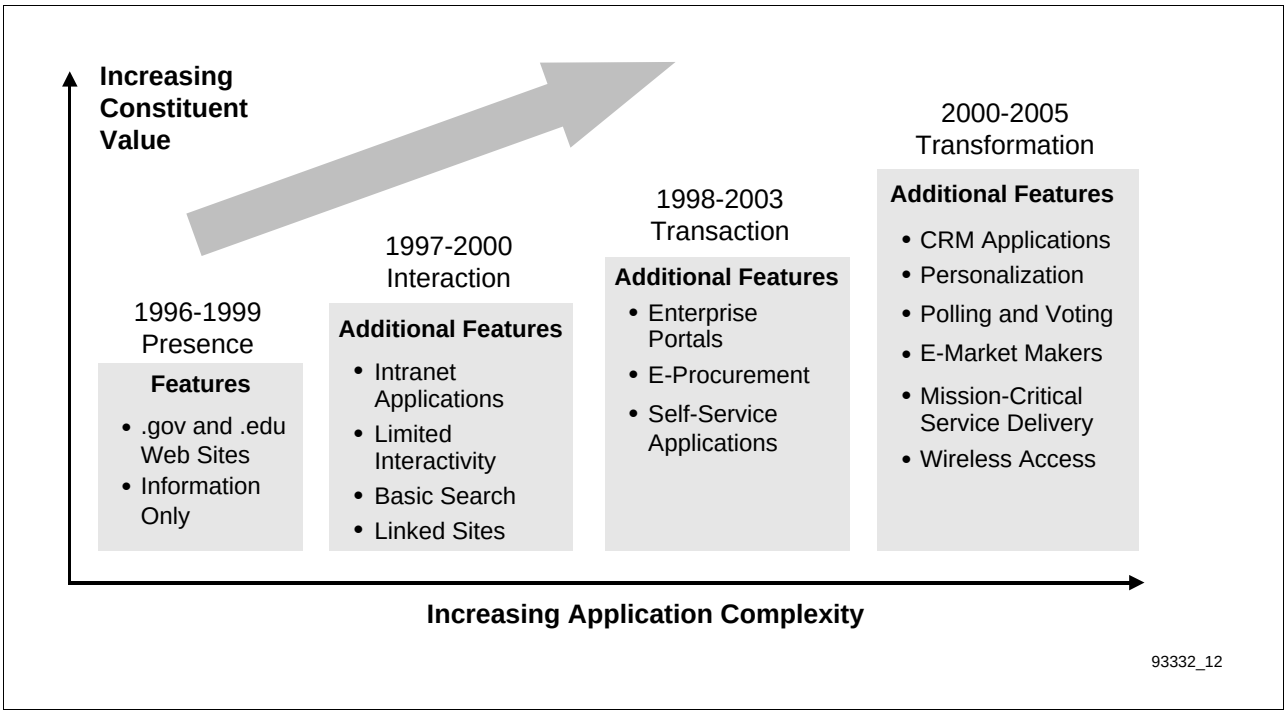
State and local governments across the nation are fixated on e-government initiatives. The e-government revolution has generated a significant amount of political, media and citizen attention to these projects and has moved e-government into the mainstream. Leading state governors are traveling the countryside trumpeting the benefits of e-government to businesses and citizens alike. Some states have outlined ambitious plans to implement e-government initiatives. For example, Maryland expects to provide 50 percent of services online by 2002 and 80 percent of services online by 2004.

To understand the different levels of e-government development, Gartner Dataquest has built a model to assess the individual phases of e-government (see Figure 3-1). The section below highlights the four distinct phases of development and provides a timeline in which these phases have / will occur.

- Phase One: Presence — This first stage of e-government development is characterized by the land rush to simply have a presence on the Internet. At the beginning of the 1990s, public sector organizations built .gov and .edu Web sites to post information and maintain a presence online. Over the years, federal, state and local governments have implemented more than 10,000 Web sites to inform the public about government agencies. However, during this first phase, the Web sites were rather static in nature and were only meant to provide general information.
- Phase Two: Interaction — This second stage of e-government development is characterized by Web sites that provide search capabilities, host forms to download, and linkages with other relevant sites. In most instances this stage enabled the public to access critical information online, but required a visit to a government office to complete the task. This stage of development largely occurred during the mid-1990s.
- Phase Three: Transaction — This third stage of e-government development is characterized by empowering the public to conduct and complete entire tasks online. The focus of this stage is to build self-service applications for the public to access online. A number of leading functions that can be migrated to this stage of development include tax filing, driver's license renewal, procurement, permitting and licensing. This is the current stage of e-government development.
- Phase Four: Transformation — This fourth stage of e-government development is characterized by redefining the delivery of government services. This phase will rely on robust customer relationship management tools, wireless access devices, and new methods of alternative service delivery capabilities that reshape relationships between citizens, businesses and governments. Examples of transformation may include individualized Web sites, in which government information is pushed to the citizen. Transformation may provide individualized Web sites, in which citizens can pay local property taxes, renew state driver's licenses and apply for federal passports all in one place, with seamless interfaces back to the respective agencies involved in the transactions. Gartner Dataquest believes this holy grail of e-government will start to take shape over the next five years.

Presently, Gartner Dataquest believes the majority of leading public sector agencies are rapidly moving out of the interaction phase and into the transaction phase. New e-government projects appear to be squarely focused on enabling businesses and citizens not only to access and download information, but also to complete entire transactions themselves.

Figure 3-1
Four Phases of E-Government



Source: Gartner Dataquest (November 2000)

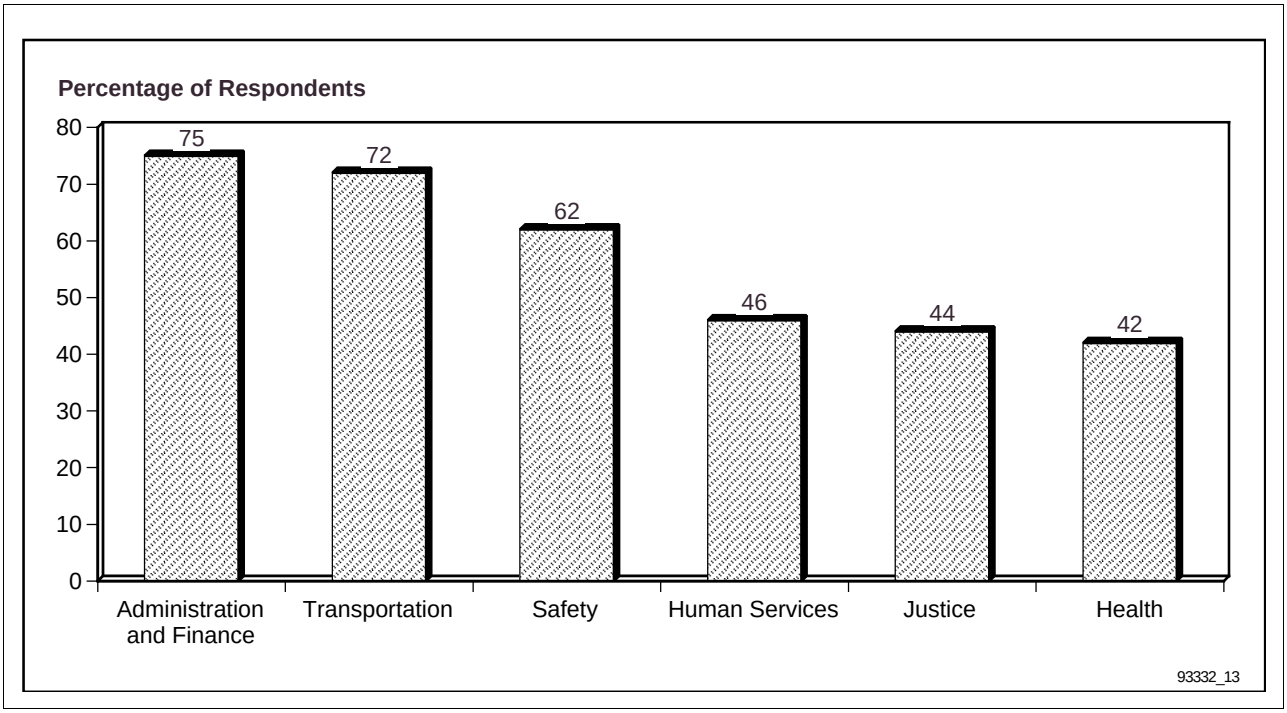
Gartner Dataquest surveyed leading state and local government executives to gauge the demand and implementation of e-government services across the major agency segments. As illustrated in Figure 3-2, the two leading agency segments for e-government implementation are administration and Finance (75 percent have an e-government initiative) and transportation (72 percent have an e-government initiative).

Leading E-Government Solutions

E-government can be divided into a number of different categories. At the top level, e-government is often split between G2C and G2B applications. Another level deeper would examine e-government based on the unique requirements of the leading agencies. Gartner Dataquest's recent e-government research highlighted the top Web projects by agency segment, which is illustrated in Figure 3-3.

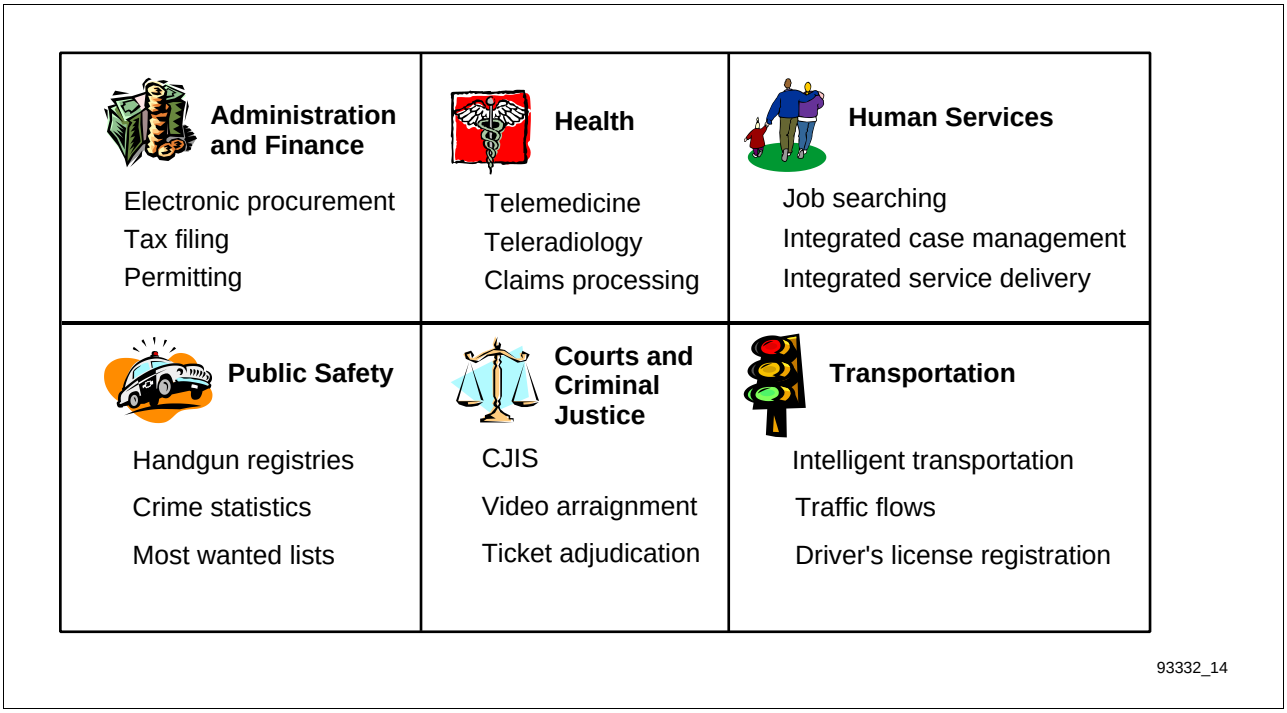
Given this framework, Gartner Dataquest has identified the e-government applications that are in greatest demand. As illustrated in Figure 3-4, e-procurement is the killer e-government solution. Eighty-five percent of respondents indicated they expect to implement an e-procurement system over the next three years. The next most popular solutions are: tax filing (75 percent), driver's license (60 percent), permits (55 percent) and licenses (55 percent).

Figure 3-2
E-Government Initiatives by Agency



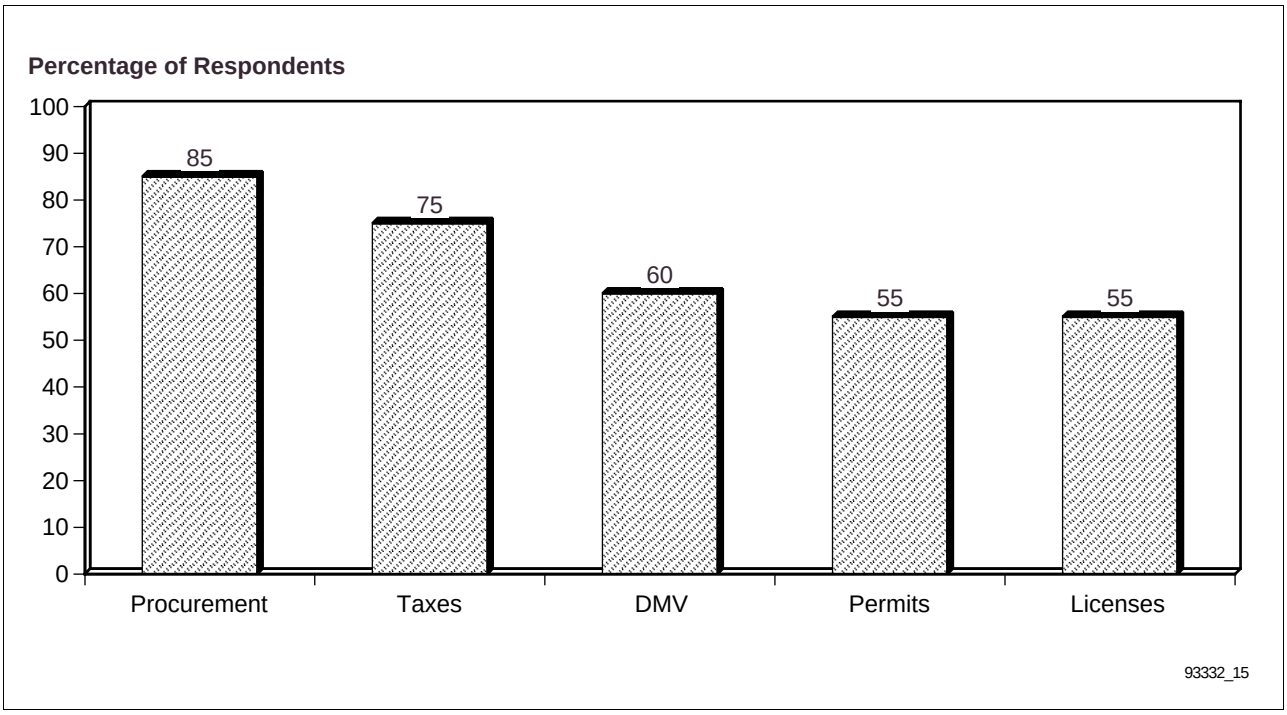
Source: Gartner Dataquest (November 2000)

Figure 3-3
Major E-Government Solution Areas



Source: Gartner Dataquest (November 2000)

Figure 3-4
Demand for E-Government Solutions



Source: Gartner Dataquest (November 2000)

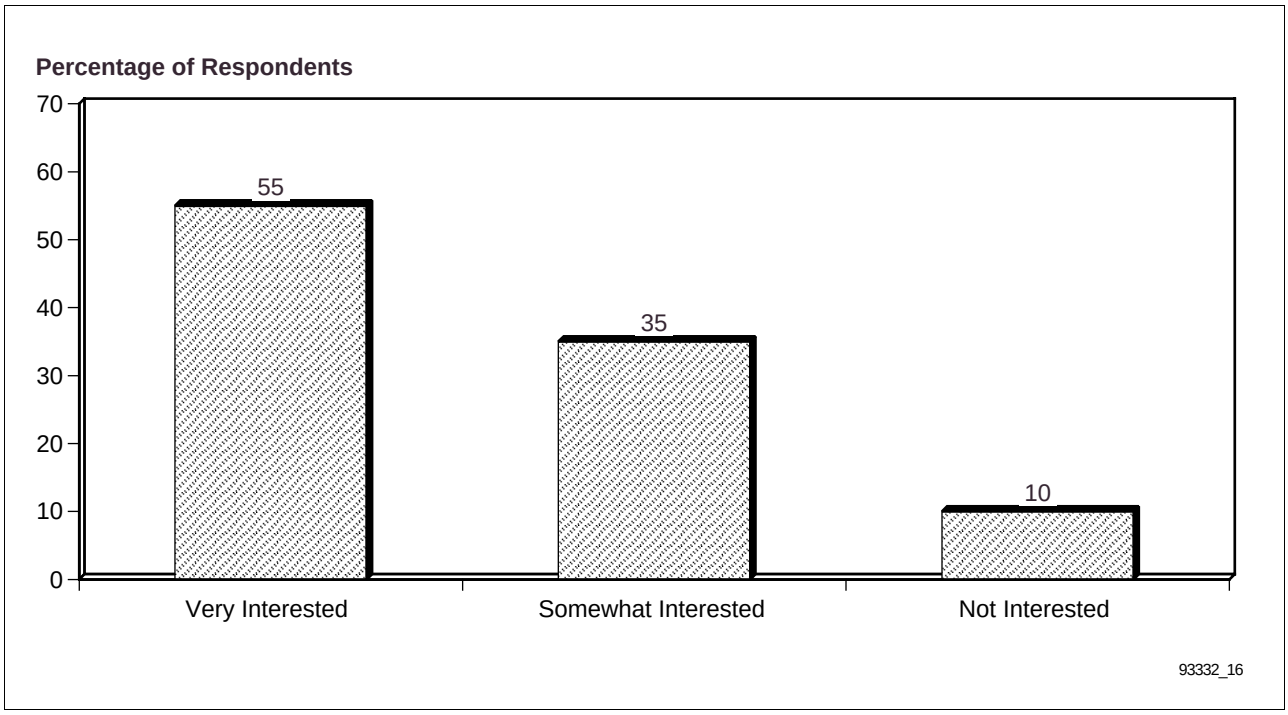
Some examples of leading e-government initiatives include:

- E-procurement: Michigan, Washington, Maryland
- Tax filing: Massachusetts, Indiana, Illinois
- Driver's license: Arizona, Virginia, Washington, D.C.
- Permits: San Jose, California; Boston, Massachusetts
- Vital statistics: West Virginia, Illinois

ASPs: The Birth of a New Model

The e-government revolution has also created an emerging class of companies with new business models. These ASP companies provide e-government functionality on a pay-as-you-go basis. This approach has caught on like wildfire in the state and local government marketplace. Public sector organizations are interested in transferring the traditional high cost of systems integration and ongoing maintenance in return for a per-transaction-cost basis. Gartner Dataquest's survey of state and local government respondents indicated that 55 percent of the respondents are very interested in vendors that provide a pay-as-you-go approach to e-government functionality (see Figure 3-5).

Figure 3-5
Interest in ASPs



Source: Gartner Dataquest (November 2000)

Washington state is one of the first public sector organizations to embrace the ASP model. The state is working with Buysense.com, a joint venture between AMS and Ariba, to provide e-procurement functionality. After a three-month startup period, Washington will have e-procurement functionality and pay for the system based on transaction charges.

Already, there are a host of ASPs that provide functionality for all of the other major e-government initiatives. Gartner Dataquest has identified the following functions being delivered by ASPs:

- Online citizen registration / request
- E-procurement
- Online driver's license renewal
- E-permitting
- Online professional licensing

Local government agencies are the sweet spot for ASP vendors. These jurisdictions often would like to implement online functionality but do not have the resources to afford custom development. As a result, the proposition of obtaining immediate functionality now with limited upfront costs and low monthly charges is a major benefit to this market segment.

There are a number of ASPs that have come to the market over the past 12 months. Some ASPs elect to focus on narrow, discrete applications while other are building a portfolio of solutions to offer to the marketplace. Some of the leading ASPs to date include the following:

- Carta
- GovConnect
- GovHost
- Link2Gov
- NetClerk
- Tidemark

Outsourcing: Dead or Alive?

The traditional landscape for outsourcing services in state and local government was confined to specific, backroom operations. Historically, outsourcing was most prevalent with Medicaid claims processing, parking ticket management, and child support collections. In those areas, outsourcing has been regarded as the most cost-effective and successful means of fulfilling governmental roles while operating within resource constraints. The key to the success of such outsourcing initiatives has traditionally hinged on the fact that such projects have focused on the outsourcing of *non-critical* government functions (for example, parking ticket collection) or functions that are beyond the scope of government expertise.

However, in the middle of 1998, the future for outsourcing in the state and local government marketplace took a dramatic change. State and local governments were ready to bring this service out of niche areas and embed outsourcing services as part of the entire technology operation. In the span of six months, three major state and local governments announced large-scale outsourcing initiatives:

- Connecticut — Connecticut was the first state to attempt a major outsourcing initiative and really was one of the early test cases for outsourcing in the state and local government marketplace. The state elected to outsource all IT operations to an external vendor. After a lengthy vendor selection process that was filled with protests, missed deadlines and false starts, EDS was selected as the winning vendor. However, during contract negotiations, the state and EDS failed to reach an agreement on the details of the contract.
- Pennsylvania — In contrast to the all-out approach by Connecticut, officials in Pennsylvania decided to strategically outsource aspects of the overall IT requirements. After an internal analysis, the state elected to focus on data center outsourcing. Pennsylvania chose Unisys to help consolidate up to 20 state data centers into a single, centralized data center and provide ongoing management support. This outsourcing contract is valued at $500 million.
- San Diego County, California — Shortly after Connecticut, San Diego County announced a major outsourcing initiative. Eventually, San Diego selected a Computer Sciences Corp. (CSC)-led team to provide outsourcing services valued at $644 million. The services provided are broader in scope than the Pennsylvania contract.

Presently, however, the focus on outsourcing has decreased dramatically. Although there continues to be interest and contracts signed, the sheer size, scale and attention associated with these initiatives are much smaller. All of the new e-government initiatives have supplanted the attention to outsourcing. Moreover, governors are less inclined to broach the complicated questions that arise with outsourcing contracts: How will this affect existing government IT personnel and will the contract provide the cost-savings projected and so forth. Moreover, ASPs also represent a new twist to outsourcing and thus have transformed what this service means to the marketplace.

Telecommunications and Networking: Strengthening the Backbone

The telecommunications and networking environment within state and local government has undergone a significant shift in recent years. Historically, responsibilities for networking and telecommunications have been organized in a dual manner: central services agencies assumed oversight for telecommunications (which consisted primarily of voice and some data) while networking requirements were addressed by the independent agencies. However, these two previously independent areas are steadily converging toward joint voice, video and data capabilities, the responsibility for which resides under a single division located under a jurisdiction's central administration department.

Serving as the umbrella agency, departments of administration are increasingly responsible for setting IT standards, establishing a telecommunications and networking infrastructure, and overseeing major procurements. Additionally, administration departments have become the central body responsible for the coordination of telecommunications software, equipment, services and networks used, as well as all voice, data and video communications. Therefore, given their growing area of responsibility as well as the substantial changes within the communications market, departments of administration are finding themselves taking on a leadership and consultative role on behalf of state agencies.

Because many state agencies are now looking toward improved networking and telecommunications as a means to improve service and access with government, states are confronted with the task of coordinating and providing the necessary infrastructure to meet those goals. In particular, Gartner Dataquest has found the following trends unique to the networking and telecommunications functions of government:

- Bundling
- Coordinated planning and jurisdictionwide strategy
- Enhanced applications
- IT and communications consolidation
- Need for bandwidth

Some of the recent innovations by state and local governments to increase the networking and telecommunications infrastructure include:

- Colorado — Recently, the state announced plans to create a high-speed , fiber optic network to connect all state offices and schools. The Multi-Use Network (MNT) is expected to bring broadband services across the state. Colorado signed a $37 million contract with US West to provide these services over the next 10 years.
- Virginia — In an effort to consolidate resources and improve speed, Virginia has established a new T-1 networking and telecommunications infrastructure.

Enterprise Resource Planning: Where Do We Go From Here?

ERP solutions appear to be at a crossroads. After a few years of rapid installation, problems with implementation delays, cost/benefit justifications and Y2K issues slowed the development of these solutions. This section will highlight the status of ERP and discuss the next steps for implementation.

Within the state and local government arena, departments of administration and finance have focused on core ERP solutions, particularly financials and human resources. Agencies are implementing integrated tax, human resources and financial management systems. Delaware, Montana, Oregon, Missouri and Michigan are just some of the states to implement statewide, integrated management systems. Local governments, such as Phoenix, Arizona, Fresno, California, and Boulder County, Colorado, have also implemented comprehensive ERP systems to improve the functionality and efficiency of their business processes. These systems help to accomplish a number of specific objectives, such as the following:

- Provide state and local executives, and legislators, with consistent jurisdiction-wide revenue, expense, personnel and asset management information
- Reduce cost and improve ease of implementation and maintenance
- Replace narrow, stovepipe systems with new enterprise solutions

However, as states and larger local governments implemented these solutions, the market opportunity narrowed. Although extended ERP applications are adding to the base of development, the real challenge for this solution area will be the ability to establish Web-ready versions and integrate these systems across a jurisdiction. Already, a number of ERP vendors have updated their solutions and are targeting this growing market opportunity. However, it is much to early to understand the adoption of these online solutions.

Data Warehousing: Turning Data Into Wine

Data warehousing solutions are rapidly becoming innovative tools for state and local governments to harness vast amounts of unlinked information into datapoints for decision-making purposes. State and local government agencies have begun to improve the accessibility of the stores of data created and used by their traditional processing systems by data warehousing tools. These agencies are turning to data warehousing solutions to bring the wealth of government information into actionable resources. In particular, governments are looking to data warehousing solutions to:

- Store vast amounts of information from multiple systems
- Provide tools to process inquiries and deliver actions items
- Serve as a central, integrated database of information designed to support decision making and analysis

Recently, Massachusetts implemented a data warehouse to serve as the foundation for future uses of information, including the support of new interagency applications requiring shared data, to establish better relationships with business partners and the private sector through electronic commerce and continued improvement in fiscal management.

The major impetus behind data warehousing implementation is the need for governments to utilize information intelligently. A number of key industry trends contributing to the establishment of data warehousing solutions include the following.

Centralized Storage and Access to Information

While state and local government agencies are moving toward more decentralized information processing and away from the mainframe, the need for accessibility to enterprisewide data and shared information through a centralized point of access is pushing data warehousing development. By definition, a data warehouse extracts data from a number of sites and a variety of systems and provides a central point in which any number of end users can query and manipulate data.

For example, the state of Washington implemented a human resources data warehouse to create a means of providing human resource data and information for decision-making and planning purposes. Additionally, the system would allow state agencies access to the data as it was made available through desktop browsers accessing the state government intranet.

Tracking/Need for Trend Information

With the wealth of information stored, government agencies are increasingly turning toward data warehouses to better track, isolate and process the large amounts of data inherent to their daily operations. Although agencies require more sophisticated solutions to perform complex data manipulation and analysis, the difficulty lies in the fact that such information often resides in multiple databases or across various agencies.

IT Strategic/Business Planning

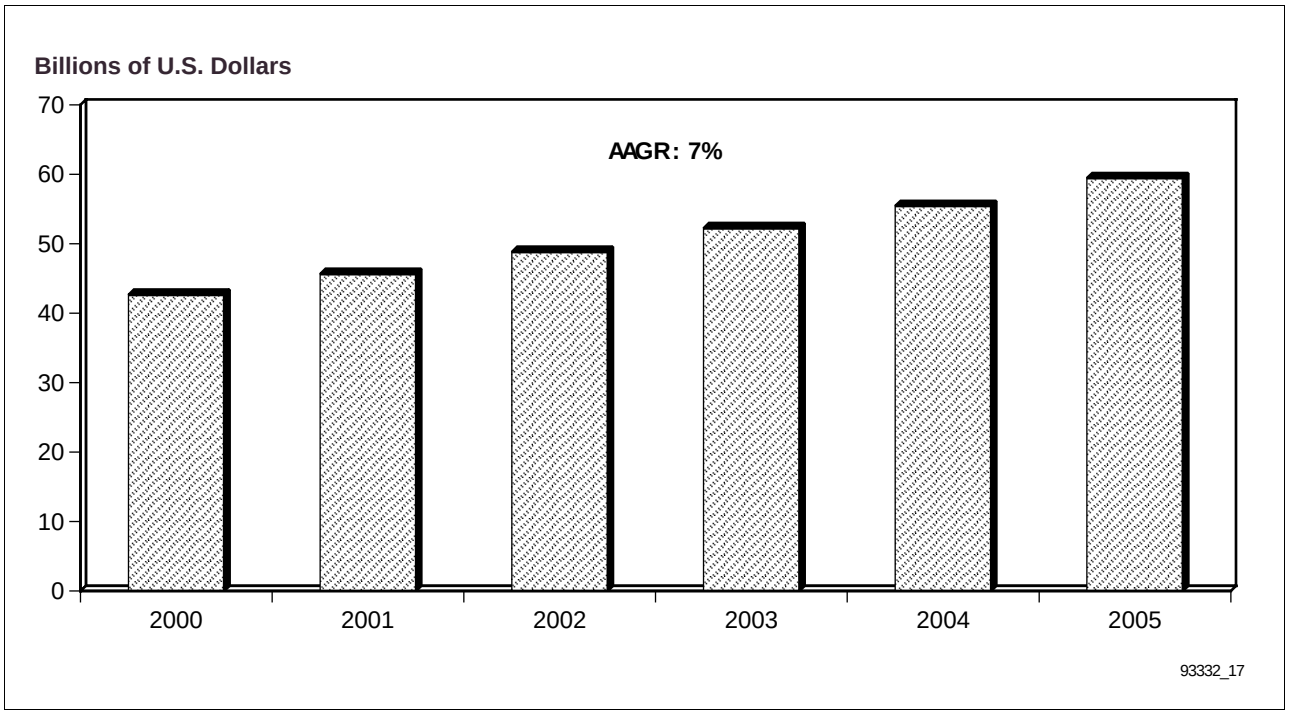
To better manage and direct resources, state and local governments are recognizing the value in developing cohesive strategic business and IT plans, and to have the two plans well integrated. For example, Kentucky's EMPOWER project with Deloitte & Touche was designed to concurrently evaluate the state's organizational structure and business processes as well as the supporting technology. Additionally, Virginia was the first state to link its business plan and IT strategic plan with performance-based budgeting, utilizing specific metrics to determine budget allocations.

Chapter 4
Market Forecasts

As illustrated in Figure 4-1, state and local government agencies will spend approximately $42.63 billion on IT in 2000. Over the next five years, this figure is expected to grow at a rate of 7 percent annually and will reach $59.43 billion by 2005. When combined with the federal government marketplace, public sector represents the second-largest vertical market in the United States next to financial services.

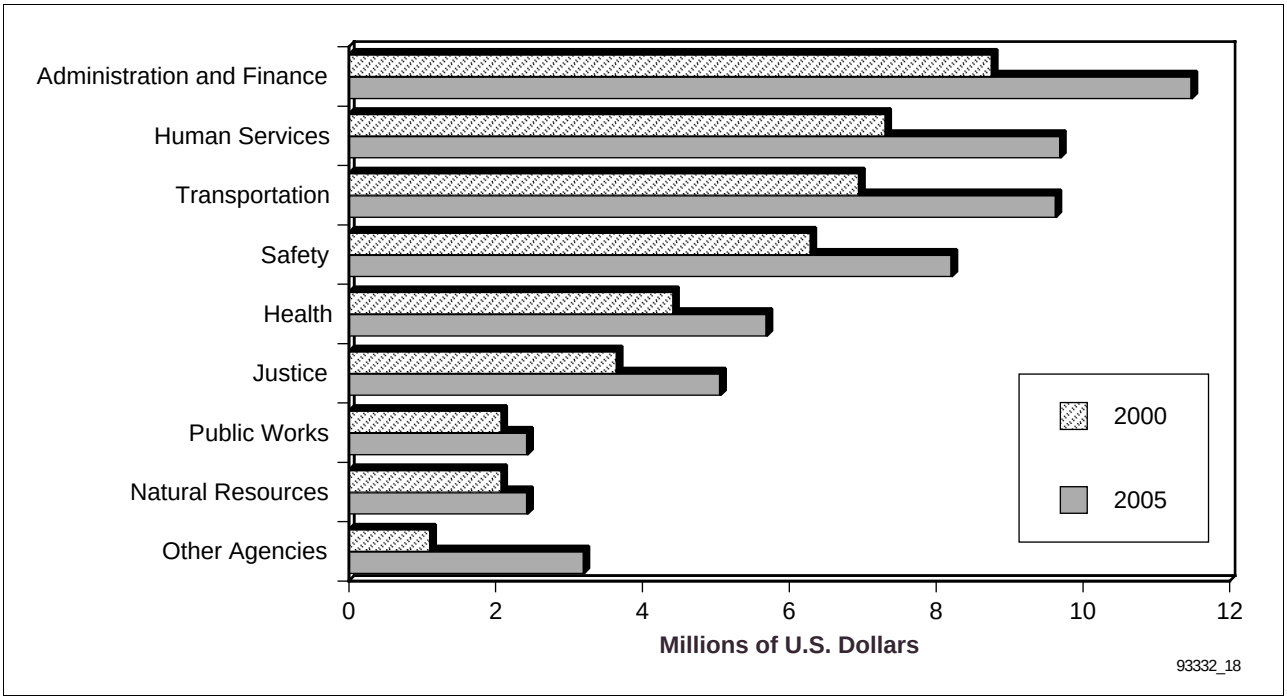
In 2000, the department of administration and finance continues to be the largest agency segment for total IT spending. As illustrated in Figure 4-2, the other major agency segments include transportation, public safety and human services. These agencies continue to have the most sophisticated IT requirements as well as utilize external service providers for a significant amount of development.

Figure 4-1
Total IT Market Forecasts, 2000 Through 2005



Note: AAGR = Annual average growth rate
Source: Gartner Dataquest (November 2000)

Figure 4-2
Total IT Market Forecasts by Agency, 2000 and 2005

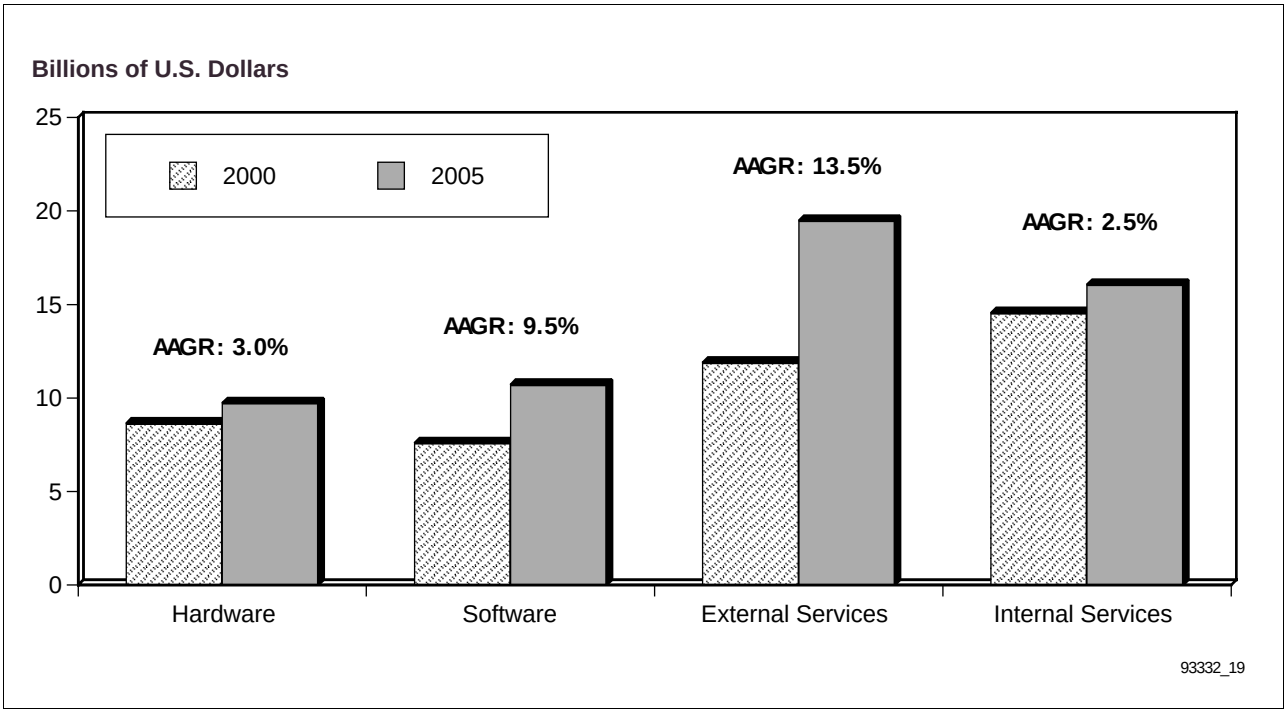


Source: Gartner Dataquest (November 2000)

Gartner Dataquest segments total IT spending by the major budget components: hardware, software, internal services and external services. Figure 4-3 provides the market forecasts by the four major budget components. Clearly, the fastest-growing areas of IT expenditures are for external services and software. The following are a number of factors that have contributed to this trend:

- E-government — State and local government must rely on external vendors to provide cutting-edge electronic commerce services. The focus for a number of e-government projects will be to utilize external vendors to provide front-end consulting services and back-end integration work.
- Outsourcing — This area represents a significant shift from expenditures on internal MIS staff to external support services vendors. The combined effect of strategic sourcing and whole-sourcing has a significant impact on the allocation of IT expenditures.
- CIO departures and IT skills shortage — The rapid movement of high-level CIOs to the private sector, the greying of the existing MIS workforce, and the inability to recruit new technology personnel are dramatically surpressing growth in internal services expenditures and forcing state and local government agencies to utilize a higher degree of external services.
- Hardware price / performance — Although the acquisition of hardware in the abstract is on the increase, the focus has been on personal computer and workstation acquisition rather than mainframe procurement. With the continuing beneficial price / performance ratios of personal computers, spending in this category appears to be flat even though the magnitude of system acquisition is much higher.

Figure 4-3
IT Spending by Budget Component



Source: Gartner Dataquest (November 2000)

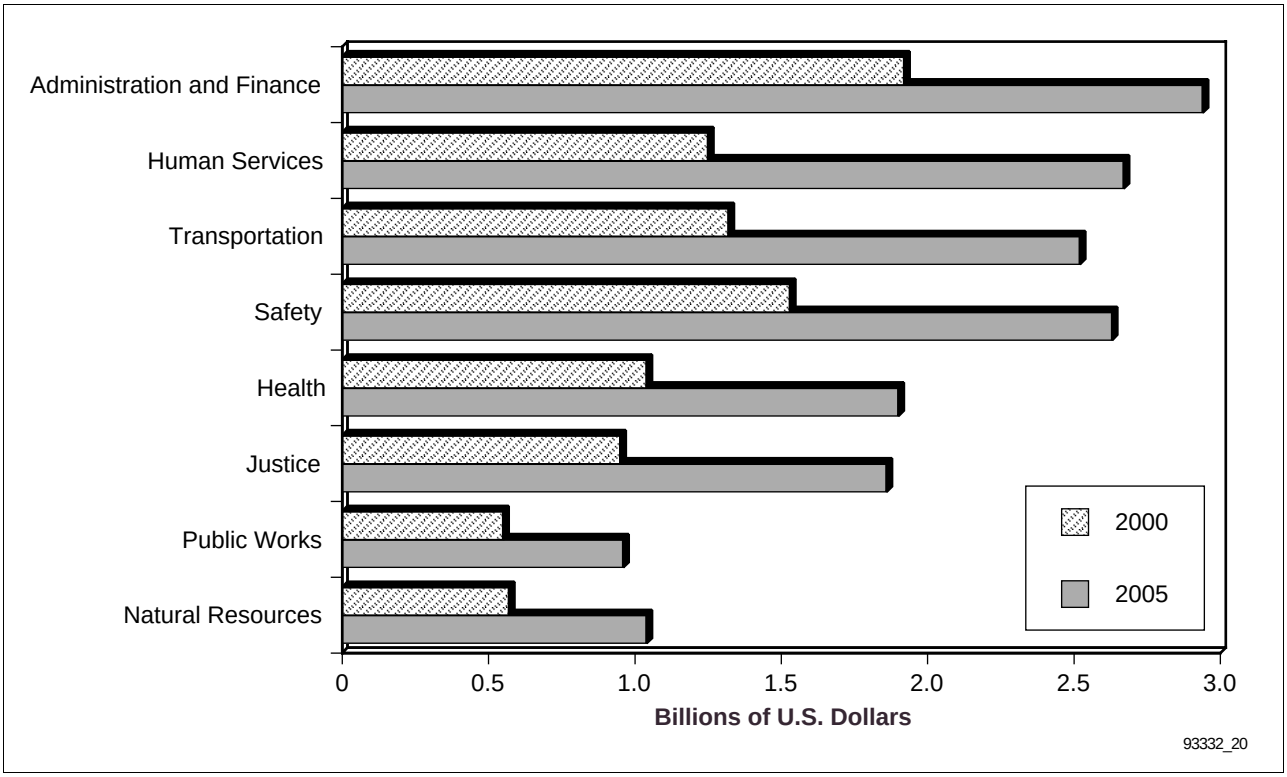
State and Local Government Solutions Spending

Increasingly, the heart of IT development by state and local governments focuses on discrete solutions. Rather than the arbitrary procurement of IT goods and services, solutions spending represents dedicated resources to implement pre-defined information systems through the mix of hardware, software and services. Solutions contracts are greater than $100,000 and generally represent multimillion dollars in pre-defined IT spending.

Figure 4-4 provides the forecasts for solutions spending by agency. Similar to the total IT market forecasts, the largest agency segments for solutions spending are: departments of administration and finance, human services, transportation and public safety.

Please note that these solutions-level forecasts focus on spending strictly by state and local government agencies and do not include the growing tide of e-government solutions that are based solely on transactional costs, participation costs, or shifts from IT budgets to operational budgets. For example, typical e-procurement implementations in which vendors receive revenue for each purchase and revenue from other vendors to be listed in the market are not included in these forecasts and will be addressed in a separate e-government market sizing report. However, expenditures made by state and local government agencies to build the infrastructure, integrate offline and online applications as well as build turnkey solutions in the traditional manner are included in these market forecasts.

Figure 4-4
State and Local Government Solutions Spending, 2000 and 2005



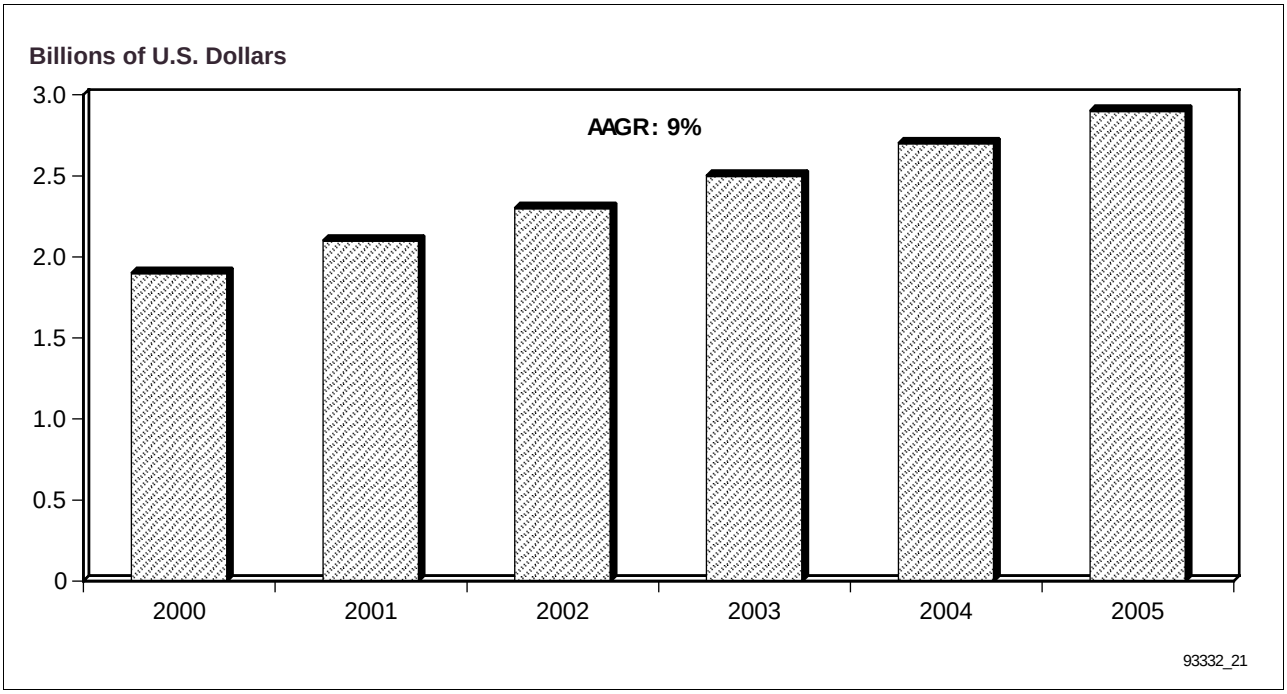
Source: Gartner Dataquest (November 2000)

Departments of Administration and Finance Solutions Market, 2000 Through 2005

Departments of administration and finance are the largest vertical segment in the state and local government marketplace. This group consists of the following agencies: administration, assessor's office, general services, finance, Management and budget, revenue, treasury and comptroller's office. The core functions of this segment are accounting, payroll, personnel, procurement, revenue/tax assessment and collection, financial planning and budget management. Because this segment has historically housed the centralized MIS departments and provides the greatest source of revenue generation, departments of administration and finance are a key target in account penetration.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $1.9 billion. Over the next five years, this figure is expected to reach $2.9 billion (see Figure 4-5).

Figure 4-5
Administration and Finance Solutions Spending, 2000 Through 2005



Source: Gartner Dataquest (November 2000)

The major solutions in this market segment include the following:

- Financial management systems
- Human resources systems
- Tax and revenue systems
- Procurement systems
- Records management systems

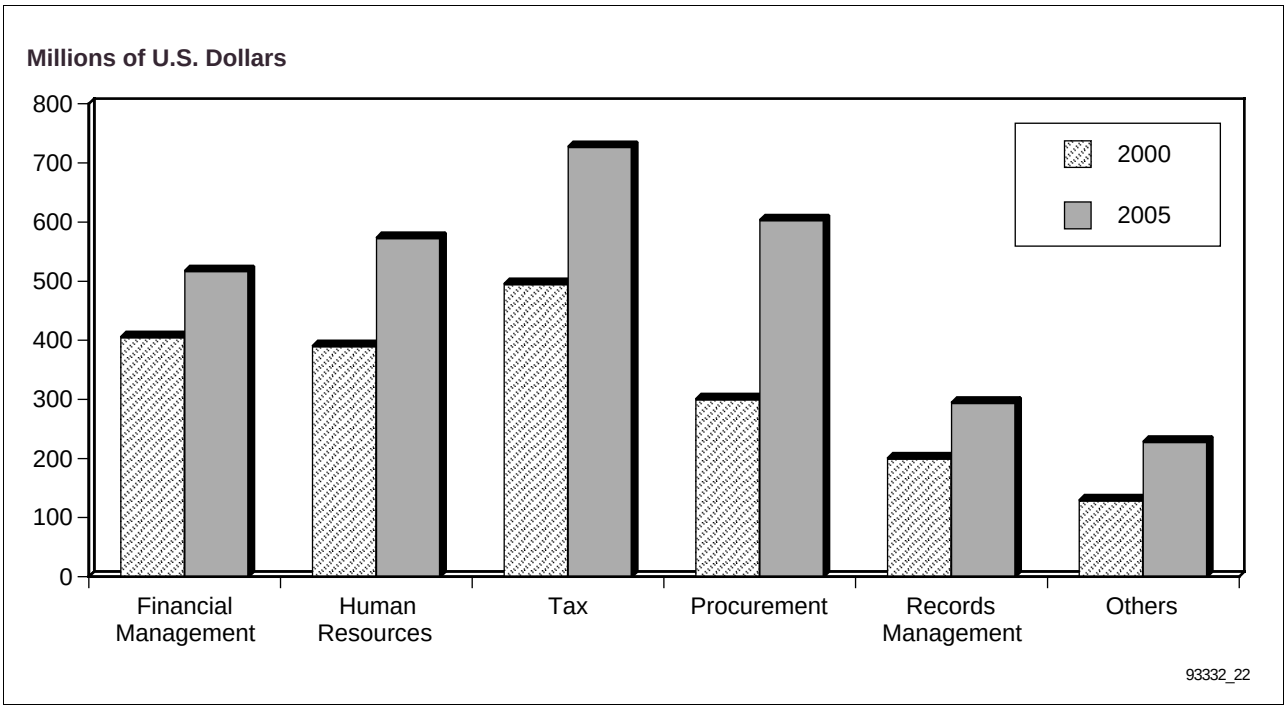
Figure 4-6 illustrates spending for the major solutions in the administration and finance segment.

Financial Management Systems

Over the past five years, state and local governments have begun to utilize enterprisewide solutions that integrate accounting, budgeting, procurement and payroll systems to provide a comprehensive view of several interrelated functions.

- State and local governments is expected to spend $405million on financial management systems in 2000. This figure is forecast to grow modestly and is expected to reach $517 million by 2005.
- Although the concentration of spending is greatest at the state level, local government represents a growing area of development for these systems.
- Newer spending will focus on releases/updates that provide a high level of online functionality.

Figure 4-6
Solutions Spending for Departments Within Administration and Finance, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Human Resources Systems

Human resources systems support the management of all personnel functions, such as personnel records, employee pensions, insurance and other government benefits. Increasingly, these systems are implemented with a high degree of payroll functionality.

- In 2000, solutions spending in this category is expected to reach $390 million. By 2005, expenditures on human resources systems is forecast to total $573 million.
- Spending in this category appears to be split evenly between state and local governments.
- Additional functionality tends to focus on scheduling, time and attendance, and performance management.

Tax and Revenue Systems

Tax and revenue systems are utilized by departments of revenue (at the state level) and assessor's offices (at the local level) to calculate, process, collect and monitor a wide variety of taxes. These systems focus on tax assessment, revenue collection, revenue modeling and auditing. Given the revenue generation nature of this category, state and local government continually look to add functionality in this space.

- Spending on tax and revenue systems is expected to total $495 million by 2000. This figure is forecast to increase to $727 million by 2005.
- Implementation of integrated tax systems is still on the rise.
- Newer systems development also focus on the incorporation of Internet tax filing features.

Procurement Systems

Procurements systems automate the complex process of vendor registration, purchasing, inventory management and billing. Procurement systems are increasingly an enterprise solution, enabling state and local governments to understand all of the spending in the jurisdiction. Procurement also represents one of the hottest areas of online development.

- State and local governments are expected to spend $300 million on procurement systems in 2000. With a growth rate of 15 percent, spending on this solution is forecast to total $603 million by 2005.
- State and local governments are increasingly turning to e-procurement solutions to bring this system online.
- E-procurement systems that are funded by transaction charges and subscription fees are not included in this category.

Records Management Systems

Records management systems are responsible for the intake, storage and tracking of a variety of public records — from land records to liens to vital records. In many cases, state and local governments must manage more than 500 different document codes. As a result, this solution provides a high degree of functionality to retrieve specified documents.

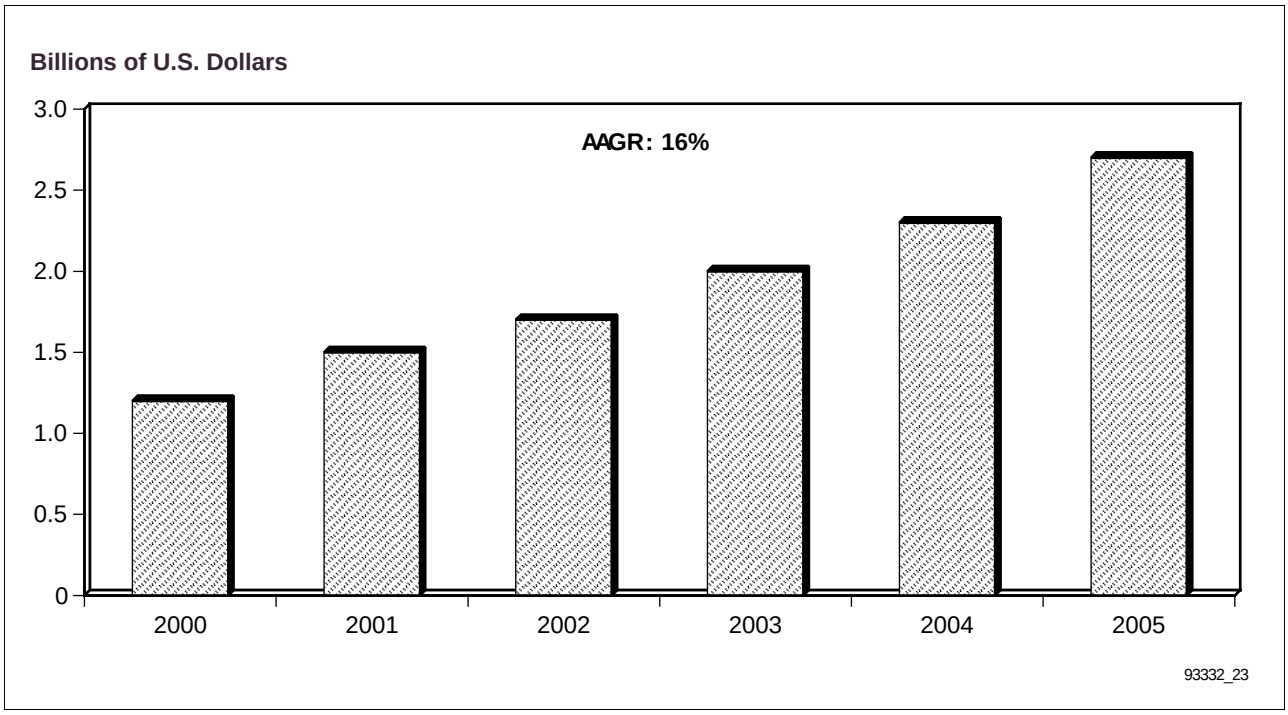
- In 2000, state and local governments are forecast to spend $200 million on records management systems. This figure is expected to reach $294 million by 2005.
- Local governments are increasingly turning to this solution to help manage the diverse document intake of the public sector.
- Providing online access to documents tracked by this solution is part of a number of e-government initiatives.

Departments of Human Services Solutions Market, 2000 Through 2005

Departments of human services manage the process of welfare enrollment, benefits distribution and training. The passage of TANF legislation has had an enormous impact on this market segment. Human services agencies have consolidated the myriad welfare programs into four major areas and have increasingly focused on job training programs that help migrate recipients from the welfare rolls. In many respects, this segment is in the process of a major overhaul.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $1.2 billion. Over the next five years, this figure is expected to reach $2.7 billion (see Figure 4-7).

Figure 4-7
Human Services Solutions Spending, 2000 Through 2005



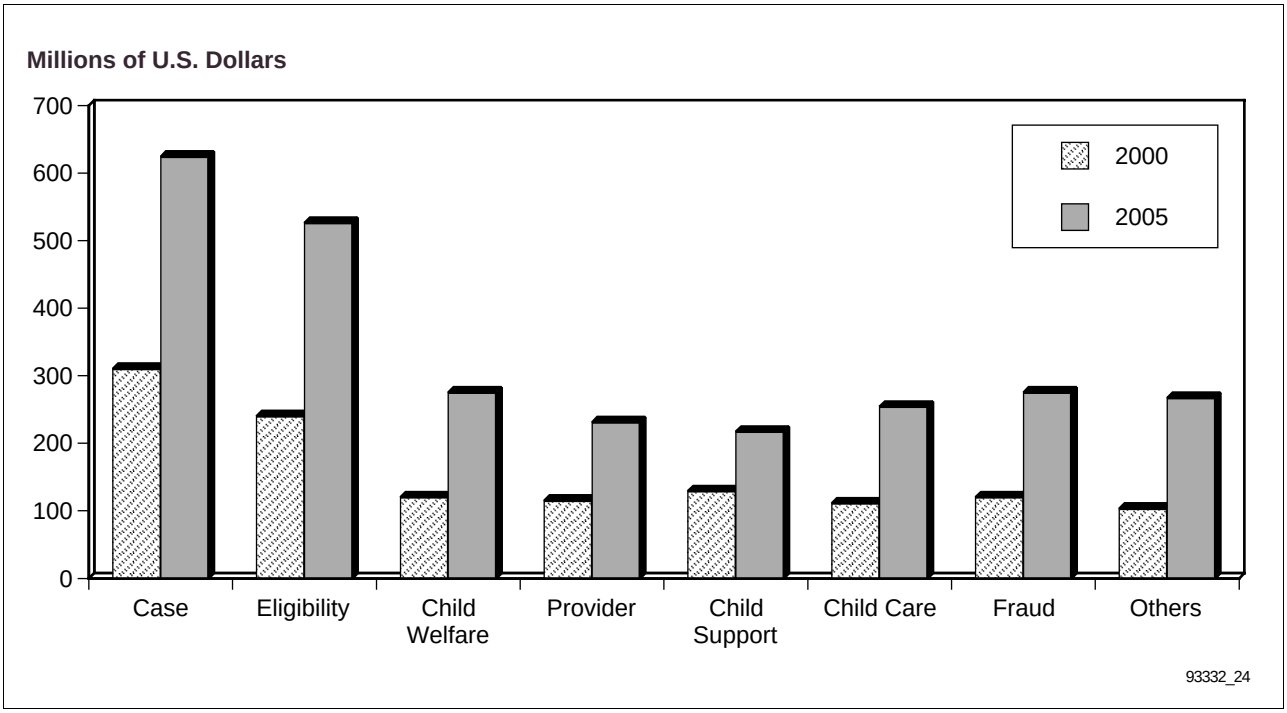
Source: Gartner Dataquest (November 2000)

The major solutions in this market segment include the following:

- Case management systems
- Eligibility and assessment systems
- Child welfare systems
- Provider / payment systems
- Child support systems
- Child care systems
- Fraud detection systems

Figure 4-8 illustrates spending for the major solutions in the human services segment.

Figure 4-8
Solutions Spending for Departments Within Human Resources, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Case Management Systems

Case management systems are the backbone of human services agencies. Moreover, given the results of TANF legislation, case management systems are now enterprise tools. In contrast to past systems development that often focused on individual programs and often were siloed applications, the next generation of case management systems will cross divisional and program boundaries. This solution serves as the core tool to manage a variety of functions: status of aid, eligible services, benefit overview, employment services and training, and other related information.

- In 2000, state and local governments are expected to spend $310 million on case management systems. With a growth rate of 15 percent, this figure is forecast to reach $624 million by 2005.
- Case management systems are increasingly being integrated with eligibility and assessment systems to immediately match recipients with eligible programs.
- Over the next five years, departments of human services will increasingly rely on case management systems as the core tool of benefit management.

Eligibility and Assessment Systems

Eligibility and assessment systems enable human services agencies to quickly and accurately determine the programs for which clients are eligible and the amount of aid the clients should receive. These systems are utilized as the front end of the welfare process to assist case workers in conducting an initial review of a client's financial and employment status, family data and benefits history.

- Gartner Dataquest estimates spending in this category will reach $240 million in 2000. With a growth rate of 17 percent, spending is forecast to total $526 million by 2005.
- This component will be increasingly integrated with case management systems to provide increased functionality for field workers.
- New development in this category will focus on enterprise functionality to determine eligibility across all programs and divisional areas.

Child Welfare Systems

Child welfare systems build on the federal mandate of Statewide Automated Child Welfare Information Systems (SACWIS) to manage a variety of child-specific functions. Child welfare systems typically focus on intake and assessment, case planning and management, foster care and adoption services, and family preservation and support services.

- Spending on child welfare systems is expected to total $120 million in 2000 and is forecast to grow to $275 million by 2005.
- New expenditures often focus on providing increased functionality to existing systems as well as integration across related service areas.
- The decline of federal matching funds will continue to slow expenditures in this category.

Provider and Payment Systems

Provider and payment systems are designed to identify key service providers (drug rehabilitation, job training and so forth), track utilization rates, measure effectiveness of programs and monitor payments. As human services agencies increasingly focus on job preparation and drug avoidance rather than simply benefits distribution, these systems will become critical to the welfare process.

- Gartner Dataquest estimates that $115 million will be spent on this solution in 2000. Over the next five years, spending in this category is expected to increase by 15 percent annually to reach $231 million by 2005.
- These systems help streamline, coordinate and monitor job training and rehabilitation services across previously distinct program areas.
- This solution area is one of the clearest examples of how the public sector works closely with private sector organizations to resolve distinct business processes.

Child Support Enforcement (CSE) Systems

One of the most successful human services programs, child support enforcement systems provide automated services to track support payments, monitor compliance, and provide information to other agencies. The trend in this category continues to focus on building statewide CSE systems that even interface with neighboring states.

CSE solutions spending is forecast to reach $129 million in 2000. By 2005, this figure is expected to total $217 million.

New spending often focuses on providing additional functionality to new systems, integration with other newer child focused programs, and providing data-sharing capabilities.

Child Care Systems

Human services agencies are mandated to design new information systems that focus on a variety of child care issues. Child care systems are typically designed to track child care providers, monitor service delivery, and provide licensing data. This is a growing area of focus within this market segment and is a high priority for systems development.

- In 2000, state and local governments are expected to spend $111 million on child care systems. With a growth rate of 18 percent, this figure is forecast to reach $254 million by 2005.
- Integration with other child-focused services and related programs will be a key component.
- The federal government requires enhanced reporting requirements from state and local governments based on this solution area.

Fraud Detection Systems

With welfare reform, human services agencies are focused on three key areas: transition from the welfare rolls to employment, establishment of time limits, and increased focus on fraud detection and prosecution. Fraud Detection Systems are designed to dramatically reduce the distribution of benefits to unauthorized recipients. Increasingly, these systems incorporate technologies such as AFIS or biometrics to accurately match recipients with their benefits.

- Gartner Dataquest expects human services agencies to spend $120 million on fraud detection systems. Five-year projections estimate that $275 million will be spent on this solution in 2005.
- The growth rate in expenditures in this category is 18 percent.
- This solution area has been emphasized over the past two years and will continue to receive a significant amount of attention in the marketplace.

Departments of Health Solutions Market, 2000 Through 2005

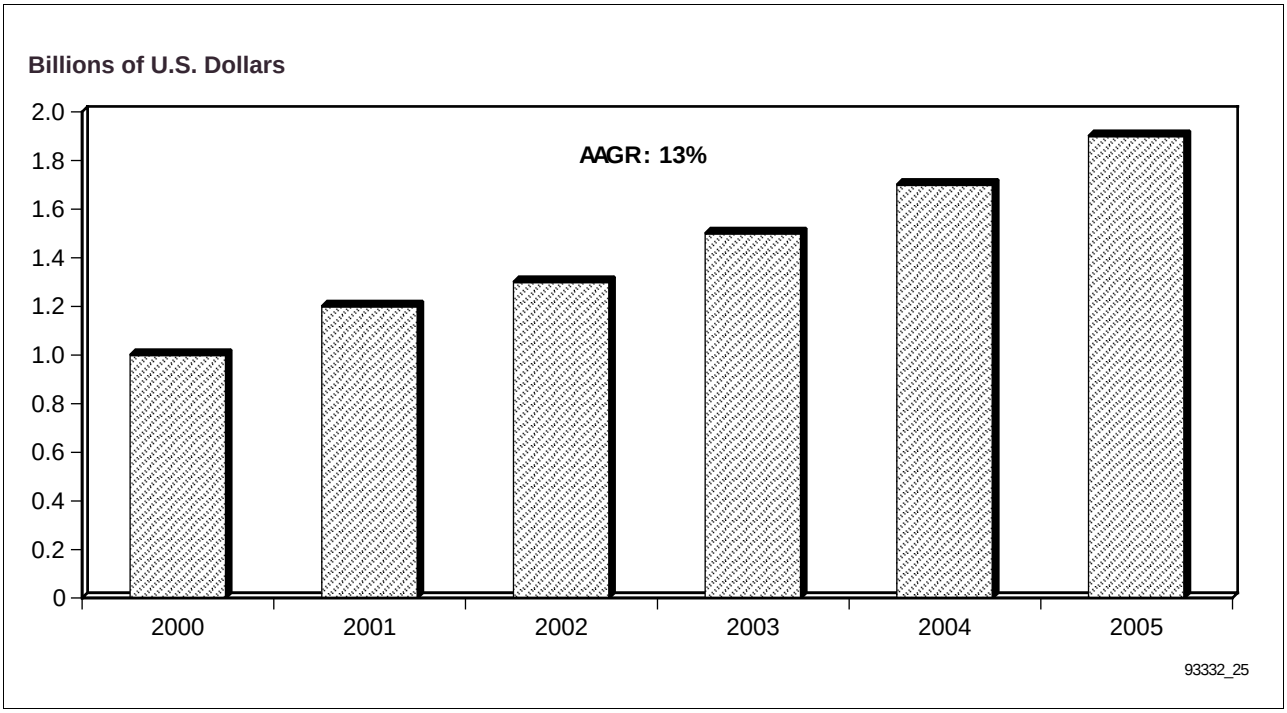
Departments of health are responsible for a variety of federal-driven programs as well as play an integral role in working with private sector healthcare service providers. The major federal programs in this category include women, infants and children (WIC) and Medicaid. However, other key functions managed by this market segment include tracking disease patterns, identifying environmental health risks, maintaining immunization records, and administration of public health centers.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $1.0 billion. Over the next five years, this figure is expected to reach $1.9 billion (see Figure 4-9).

The major solutions in this market segment include:

- Hospital management systems
- Patient tracking systems
- Vital statistics and immunization systems
- WIC management systems
- Laboratory management systems
- Mental health systems
- Environmental health systems
- Medicaid administration systems

Figure 4-9
Health Solutions Spending, 2000 Through 2005



Source: Gartner Dataquest (November 2000)

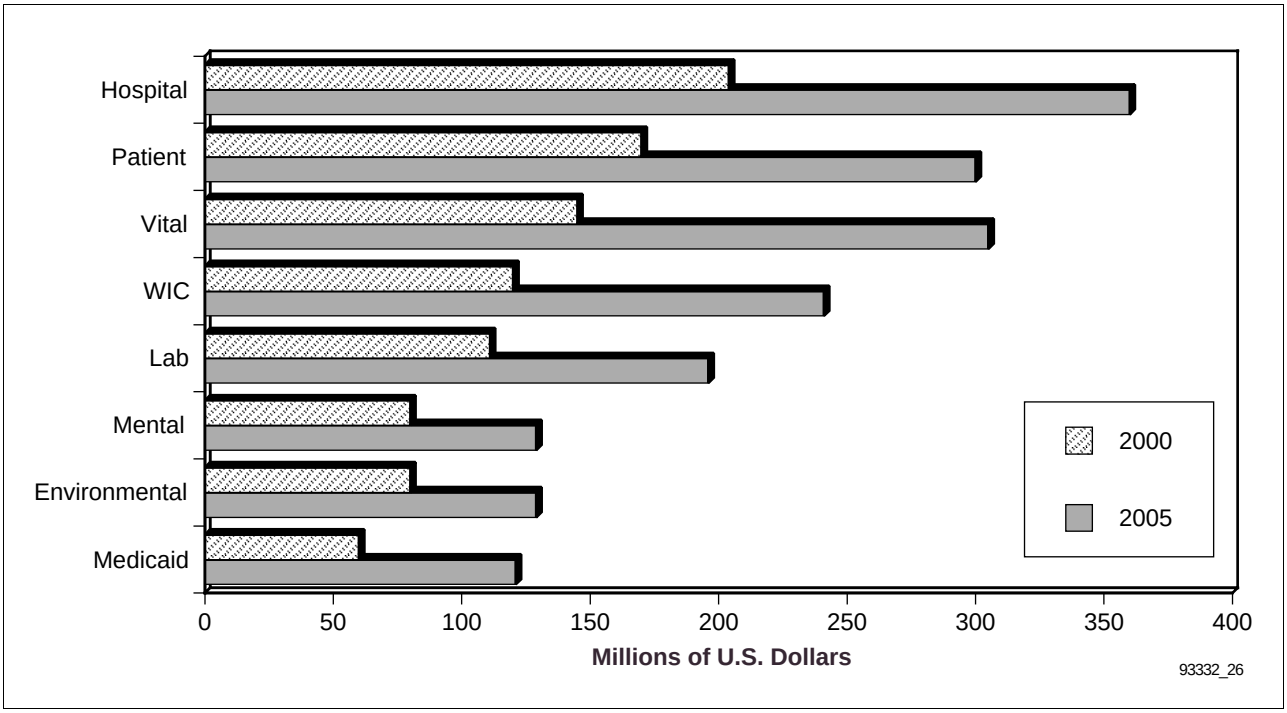
Figure 4-10 illustrates spending for major solutions in the health solutions market segment.

Hospital Management Systems

Departments of health often govern public hospitals and clinics in their jurisdiction. As part of this responsibility, hospital management systems enable this market segment to automate key administrative aspects of this process: staffing, scheduling, billing and inventory management.

- In 2000, state and local governments are expected to spend $204 million in this solution area. With an annual growth rate of 12 percent, expenditures in this category are forecast to reach $360 million by 2005.
- The focus of new systems development often center on private / public integration, increased customer service functionality and supply chain management.

Figure 4-10
Solutions Spending for Departments Within Health, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Patient Tracking Systems

Patient tracking systems focus on service provisioning, health history, billing/insurance, admittance and release information. These systems also facilitate demographic analysis and disease prevention/planning. In many respects, these systems mirror the development of electronic medical records and master patient indexes in the private sector.

- Expenditures on patient tracking systems are expected to total $170 million. In 2000. With an annual growth rate of 12 percent, this figure is expected to reach $300 million by 2005.
- New systems development may incorporate new technologies such as smart cards to enable the patient to be tracked across all available healthcare resources.
- The key to additional development will be cooperation with private sector healthcare organizations, which may be utilizing similar applications.

Vital Statistics and Immunization Records Management Systems

Departments of health are responsible for recording birth, death, immunization and health statistics information. The use of these records management systems provides an automated mechanism to store, track and retrieve this information. In many respects, this is a core responsibility of this market segment.

- Solutions spending in this area is expected to total $145 million in 2000. Five-year projections estimate that systems development will reach $305 million by 2005.
- Departments of health are rapidly moving this functionality online to provide for citizens increased access to important records.
- A number of Internet projects charge convenience fees of $2 to $5 to help fund these e-government solutions.

WIC Management Systems

WIC is one of the most successful healthcare programs driven by the federal government. In many respects, WIC focuses on preventive healthcare services for defined populations. The objective of the program is to provide supplemental nutritional benefits to pregnant or postpartum women, infants and children. This information system provides support to track recipients, distribute services and administer the program.

- In 2000, state and local governments are expected to spend $120 million in this solution area. With an annual growth rate of 16 percent, expenditures in this category are expected to reach $241 million by 2005.
- The focus of new systems development often center on private/public integration, increased customer service functionality and supply chain management.

Laboratory Management Systems

Laboratory management systems are responsible for tracking all tests administered in a hospital. These systems store information on specimens, blood samples and X-rays. These systems enable multiple departments as well as locations to have access to the same data, dramatically reducing the need for duplicative tests or uninformed diagnosis.

- Spending on laboratory management systems is expected to reach $111 million in 2000. Over the next five years, this figure is forecast to rise to $196 million.
- Integrating this functionality with patient tracking systems is a key aspect of new systems development.
- Security is a major decision criterion in this solution area.

Mental Health and Rehabilitation Management Systems

Mental health and rehabilitation management systems provide automation for specialized services within departments of health. Although this area has seen a period of neglect, new funding patterns has seen a revival of systems implementation. This is because of the increased amount of services that are provided through outpatient or at-home services. These systems provide case management, provider management and statistical analysis services.

- In 2000, state and local governments are expected to spend $80 million in this solution area. With an annual growth rate of 10 percent, expenditures in this category are forecast to reach $129 million by 2005.
- In particular, the focus on rehabilitation within new federal legislation has increased systems development in this area.
- Future development will probably integrate enterprise case management systems with this application area.

Environmental Health Management Systems

Environmental health is a specialized division within some departments of health. This program focuses on the effect of natural, chemical or toxic emergencies on public health. These management systems track health effects, measure the impact of external hazard and monitor changes in health / disease patterns.

- Departments of health are forecast to spend $80 million on systems implementation in 2000. Over the next five years, expenditures are expected to rise to $129 million.
- In many instances, these systems are integrated with emergency response and disaster relief programs.
- Geographic information systems often interface with these management systems to provide mapping capabilities and track the spread of environmental impacts.

Medicaid Administration Systems

Medicaid is the cornerstone program of departments of health. Medicaid administration systems help support program administration, distribution of health services and billing management. However, the primary business opportunity in this area is the outsourcing of claims management. All states utilize outsourcing contracts to manage this responsibility.

- Given the narrow scope of development, Gartner Dataquest believes that total spending in this area will be $60 million in 2000. Spending is expected to reach $121 million by 2005.
- New functionality built into these systems often center on surveillance and utilization systems that enable health agencies to monitor duplicate or fraudulent billing.
- Again, the major business opportunity is Medicaid management information systems, which outsource claims processing.

Departments of Transportation Solutions Market, 2000 Through 2005

Departments of transportation are typically organized at the state level to manage all transportation functions, from road design, engineering and construction to management of public transportation services. This market segment is also responsible for state departments of motor vehicles, which focus on issuance of drivers' licenses, registration of vehicles and collection of fees. Local departments of transportation are also included in this segment, but not local departments of public works.

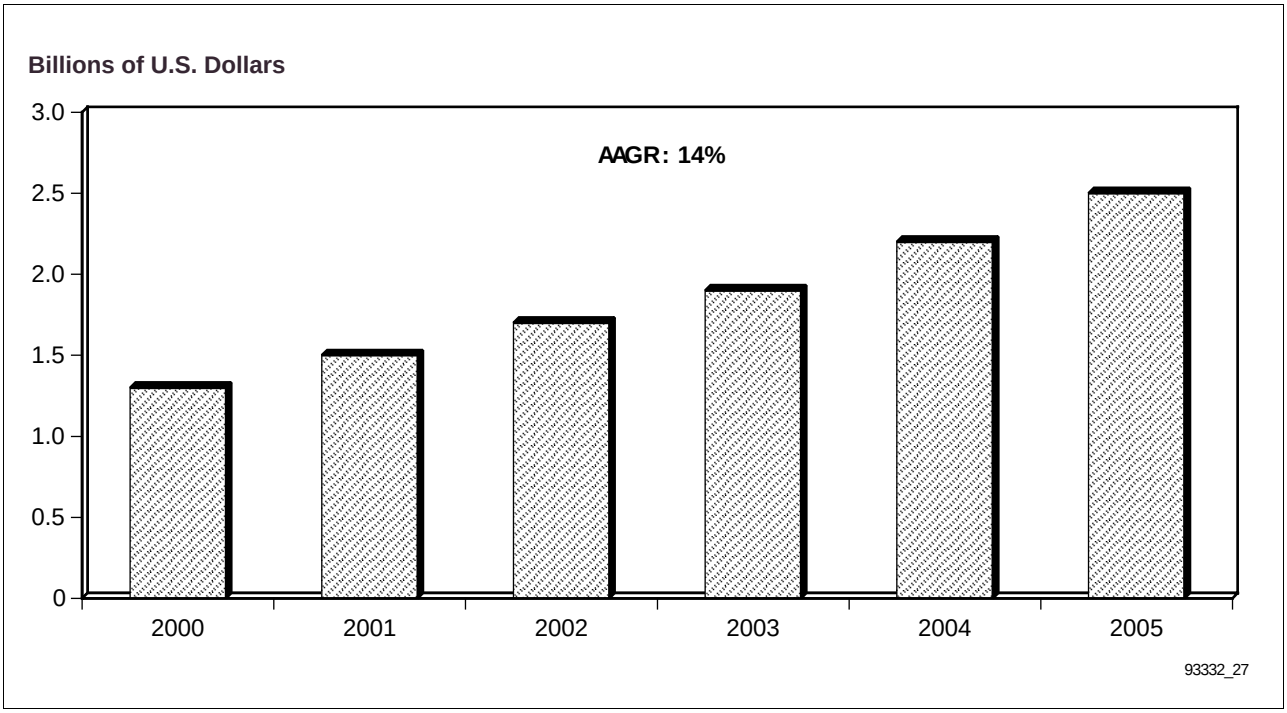
Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $1.3 billion. Over the next five years, this figure is expected to reach $2.5 billion (see Figure 4-11).

The major solutions in this market segment include:

- Intelligent transportation management systems
- Electronic toll collection systems
- CAD/CAE systems
- Fleet/equipment management systems
- Vehicle registration systems
- Driver's license systems
- Finance systems

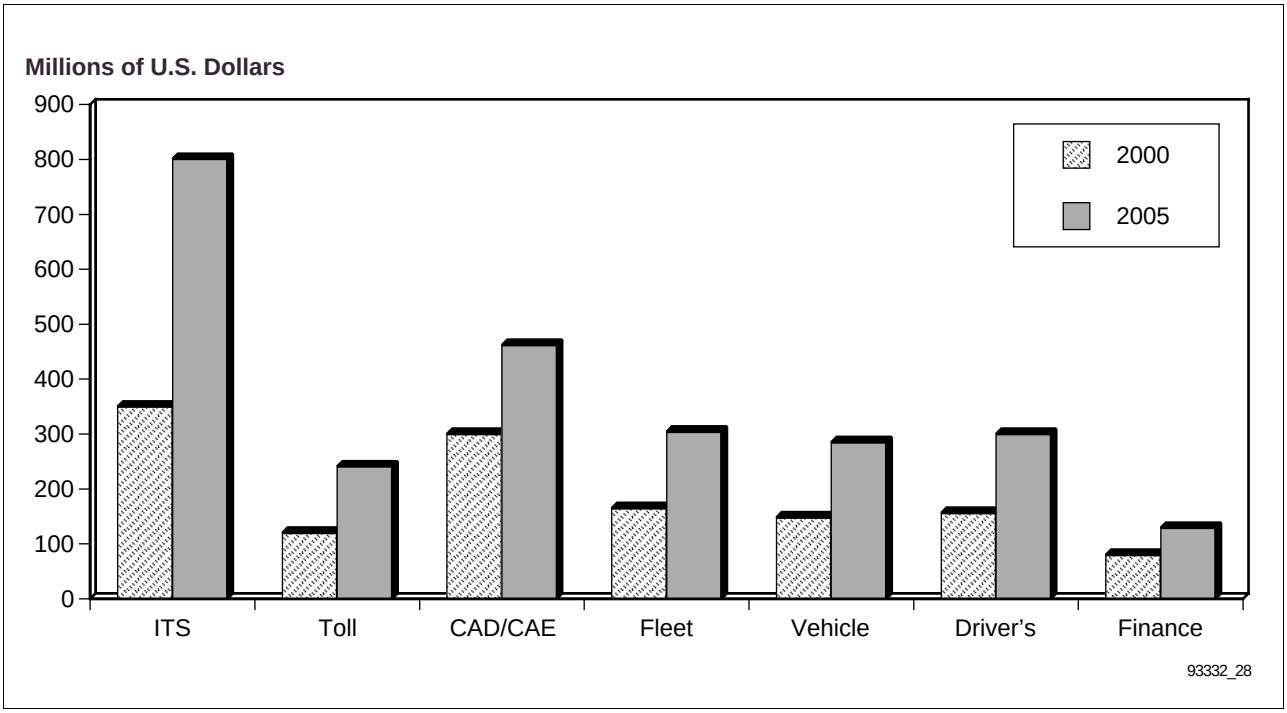
Figure 4-12 illustrates spending for major solutions in the transportation market segment.

Figure 4-11
Transportation Solutions Spending, 2000 Through 2005



Source: Gartner Dataquest (November 2000)

Figure 4-12
Solutions Spending for Departments Within Transportation, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Intelligent Transportation Management Systems

The passage of federal legislation has thrust the development of new ITS solutions to the forefront of transportation technology plans. ITS systems are spread out across six categories. These systems are responsible for managing the next generation of transportation programs.

- In 2000, state and local governments are expected to spend $350 million in this solution area. With an annual growth rate of 18 percent, expenditures in this category are forecast to reach $801 million by 2005.

Electronic Toll Collection Systems

One of the most successful areas of ITS development is in the area of electronic toll collection. These systems have sprung up across the country to provide an automated solution to the process of paying tolls. This area has also been well received by the citizenry and represents a successful development in G2C applications.

- Gartner Dataquest estimates that spending on electronic toll collection systems will be $120 million by 2000. With a growth rate of 15 percent, expenditures in this category are expected to reach $241 million by 2005.
- Electronic toll collection systems have received high-profile media attention in Chicago, Boston and San Francisco.
- This solution area will continue to be split between outsourcing of the process and typical systems integration.

CAD/CAE Systems

Departments of transportation's core function is to build and maintain roads. CAD / CAE systems enable these agencies to easily design roads, bridges and tunnels. These systems also provide planners and engineers with uniform, accurate and straightforward revision capabilities and specifications.

- Spending on CAD / CAE systems are forecast to total $300 million in 2000. By 2005, this figure is expected to grow to $462 million.
- This solution is a core application for transportation agencies and will be subject to continual updates and new feature functionality.

Fleet/Equipment Management Systems

Fleet / Equipment management systems assist transportation managers in the operation and maintenance of fleets for highway / road construction, maintenance and repair. Fleet management systems also track and analyze vital vehicle and equipment information to continually calculate fleet assets and effectively manage fleet repairs and costs.

- In 2000, state and local governments are forecast to spend $165 million in this solution area. With an annual growth rate of 13 percent, expenditures in this category are expected to reach $304 million by 2005.
- Increasingly, technologies such as AVL and automatic vehicle identification (AVI) are built into this solution to provide increased functionality.
- Gartner Dataquest expects incident management reporting capabilities to be integrated with this solution to provide a streamlined approach to road repair.

Vehicle Registration Systems

Within the departments of motor vehicles, vehicle registration systems support the main business process of vehicle titling, registration and renewal. Given the revenue-generating aspects of this solution, vehicle registration systems represent a key area of development and growth.

- Expenditures in this area are forecast to reach $148 million in 2000. Over the next five years, this figure will grow annually by 14 percent and is expected to total $285 million by 2005.
- This area represents a key area of e-government development. Many departments are moving this functionality online.

Driver's License Systems

Similar to vehicle registration systems, departments of motor vehicles are turning to driver's license systems to automate the entire business process of testing, issuance and records management. These systems also provide revenue-collection capabilities.

- In 2000, state and local governments are expected to spend $156 million in this solution area. With an annual growth rate of 14 percent, expenditures in this category are forecast to reach $300 million by 2005.
- Online driver's licenses is the third most popular application of e-government.
- Arizona, Virginia and Washington, D.C., are leading jurisdictions for online driver's license implementation.

Finance Systems

Given the broad range of revenue collection (public transportation, vehicle registration, driver's licenses) within this market segment, departments of transportation often have agency-specific finance systems to manage these resources. These systems are typically not integrated with enterprise finance applications and represent the traditional, siloed approach to systems development.

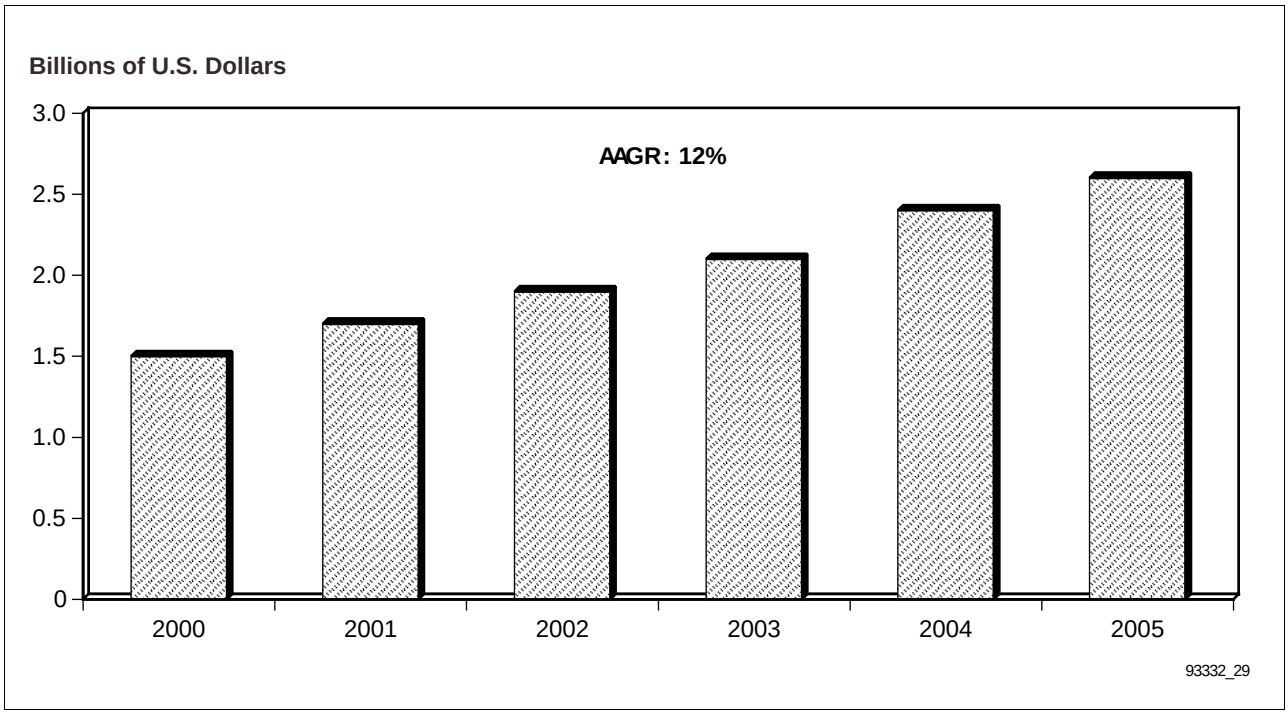
- Departments of transportation are expected to spend $80 million on finance systems. This figure is forecast to grow to $129 million by 2005.
- These applications also support the management of federal funds and grants.

Departments of Public Safety Solutions Market, 2000 Through 2005

Departments of public safety are responsible for the law enforcement activities of the jurisdiction. This market segment is heavily weighted at the local government level, encompassing sheriff's offices, police departments, fire and emergency services, and related pubic safety agencies. Increasingly, however, state departments of public safety also play an integral role in law enforcement activities.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $1.5 billion. Over the next five years, this figure is expected to reach $2.6 billion (Figure 4-13).

Figure 4-13
Public Safety Solutions Spending, 2000 Through 2005



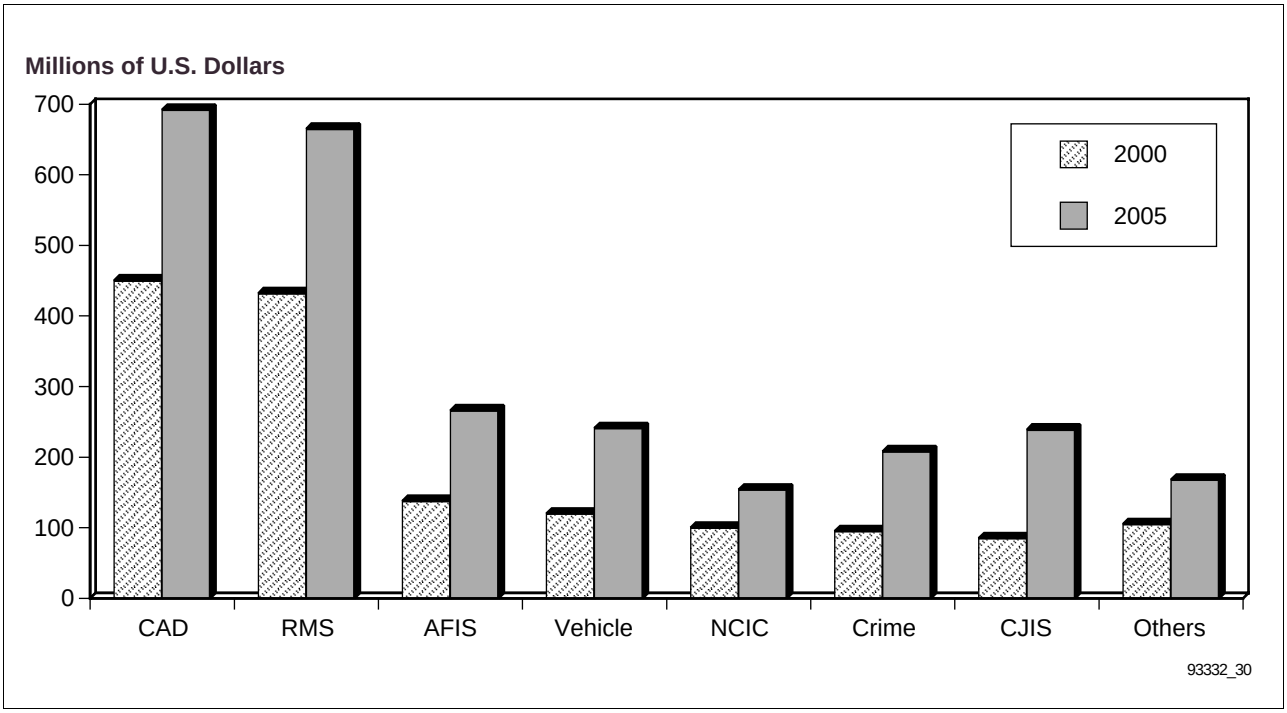
Source: Gartner Dataquest (November 2000)

The major solutions in this market segment include:

- Computer-aided dispatch
- Record management systems (RMSs)
- AFISs
- Vehicle automation
- National Crime Information Center (NCIC) systems
- Crime analysis systems
- CJISs

Figure 4-14 illustrates spending for major solutions in the public safety market segment.

Figure 4-14
Solutions Spending for Departments Within Public Safety, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Computer-Aided Dispatch

Computer-aided dispatch is the cornerstone application within public safety agencies. These systems enable law enforcement agencies to track vehicles, manage vehicle response and allocate available resources. The effectiveness of the solution among law enforcement agencies has created new demand among related public safety agencies, such as emergency response and fire.

- In 2000, state and local governments are expected to spend $450 million in this solution area. Expenditures in this category are forecast to reach $692 million by 2005.
- The trend is to procure integrated computer-aided dispatch / RMS solutions.
- Each year, public safety agencies look to add functionality to their computer-aided dispatch systems, incorporating AVL, AFIS and other technologies.

Record Management Systems

The other cornerstone public safety solution, RMSs, are utilized to store, index, update, and retrieve incident and criminal records. With the increased automation of the public safety vehicle, records management can provide access to critical case information in the field.

- Spending on RMS solutions is expected to total $432 million this year. With a modest growth rate of 9 percent, expenditures are forecast to reach $665 million by 2005.

- Although integration with computer-aided dispatch systems is key to new systems implementation, the increasing focus on specific data feeds (for example, sexual offender) has created the demand for more updated RMS solutions.
- Public safety agencies understand that widespread access to RMS solutions can make a significant impact on the reduction of crime.

AFISs

AFISs as well as the broader category of biometrics enable law enforcement agencies to collect, identify, match and store electronic fingerprints or other unique identifiers. This solution has been important to resolving key criminal issues.

- In 2000, state and local governments are expected to spend $138 million in this solution area. Expenditures in this category are forecast to reach $266 million by 2005.
- Biometrics, which is included in this category, may focus on identifiers such as tattoos, scars or even retina scans.
- Connections to large centralized databases have spurred upgrades and new development in this category.

Vehicle Automation

Vehicle automation provides hardware and software solutions to officers in the field so that they may be connected to important information feeds. Traditionally, mobile data terminals provided this layer of connection. However, as personal computer costs continue to decrease, new vehicle automation projects often utilize more sophisticated equipment.

- Expenditures on vehicle automation is expected to be $120 million. By 2005, this figure is forecast to reach $241 million.
- Vehicle automation is one of the fastest-growing areas of development, with expenditures forecast to increase by 15 percent annually.
- New vehicle automation projects often focus on linkages with centralized databases, such as NCIC.

NCIC Systems

The NCIC's 2000 projects are based on establishing linkages to centralized databases to improve data access to all law enforcement agencies. Spending in this category will include networking/telecommunications development as well as solution implementation.

- NCIC solution projects are expected to total $100 million in 2000. Gartner Dataquest forecasts this figure will rise modestly to $154 million by 2005.
- NCIC solution spending is often built into systems development costs for RMS, computer-aided dispatch and vehicle automation.
- Access to these large information respositories has been a boon for law enforcement agencies. This trend of providing greater access to critical information will undoubtedly continue over the next five years.

Crime Analysis Systems

Crime analysis systems support the entire process of incident management, evidence tracking, lab management and specialized crime tracking applications. These systems are utilized to manage the investigation process, provide a link to related incidents and provide mapping capabilities to spot trends.

- In 2000, state and local governments are expected to spend $95 million in this solution area. With a growth rate of 17 percent, spending on these systems is forecast to total $208 million by 2005.
- Drug enforcement monitoring and gang tracking are common modules within crime analysis systems.

CJISs

CJISs represent the next generation of public safety and justice applications. The CJIS provides an enterprise approach to the process of arrest, trial, incarceration and parole. The CJIS provides a singular framework from which all agencies (public safety, justice, corrections) and stakeholder groups (officers, prosecution, defense) may have access to a common, longitudinal record.

- In 2000, state and local governments are expected to spend $85 million in this solution area. Expenditures in this category are forecast to reach $239 million by 2005.
- Spending on CJIS implementation is expected to grow by 23 percent annually.
- CJIS implementation in California, Colorado, Michigan and Ohio has received significant attention.

Departments of Criminal Justice Solutions Market, 2000 Through 2005

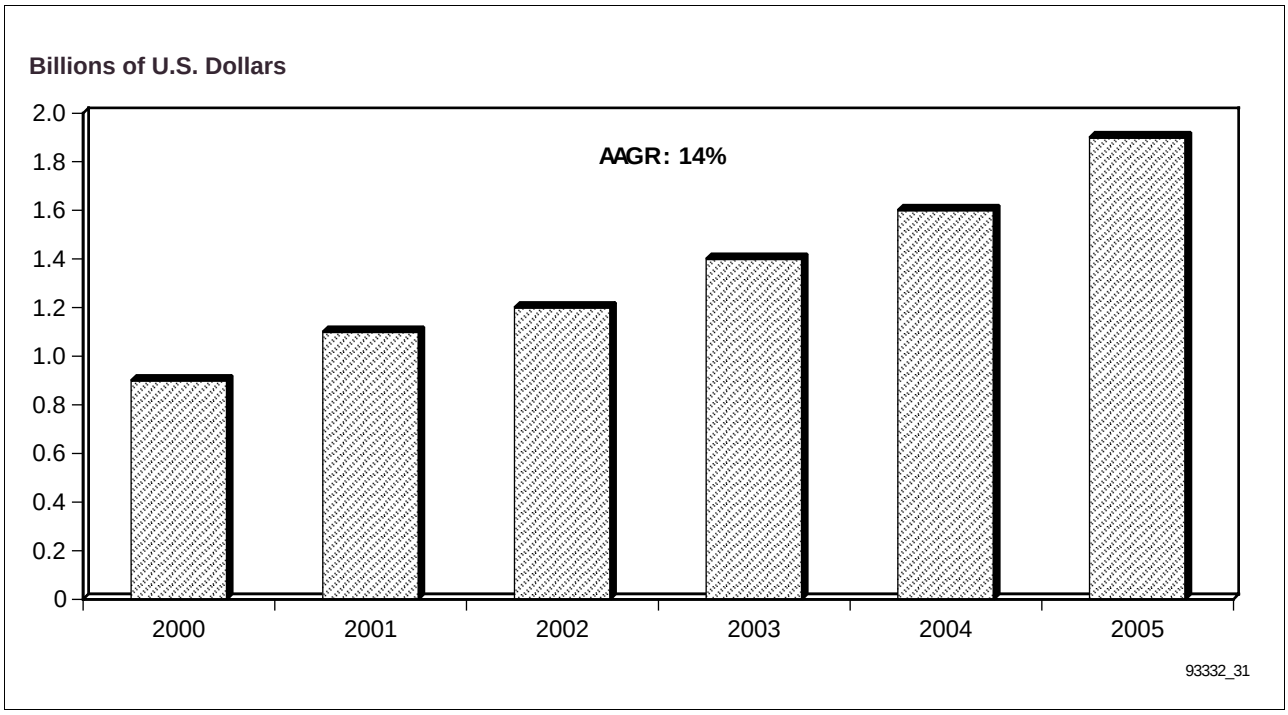
Departments of criminal justice can be segmented into two main categories: courts and corrections. This market segment has a complex system of courts that span local, state and federal reporting structures. Traditionally, courts have not been a major area of IT development. Corrections agencies also maintain a system of incarceration levels as well as manage the responsibilities of parole and probation.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $947 million. Over the next five years, this figure is expected to reach $1.7 billion (see Figure 4-15).

The major solutions in this market segment include:

- Integrated court systems
- Court management systems
- Case management systems
- Jail management systems
- Inmate tracking systems
- Accounting systems

Figure 4-15
Criminal Justice Solutions Spending, 2000 Through 2005



Source: Gartner Dataquest (November 2000)

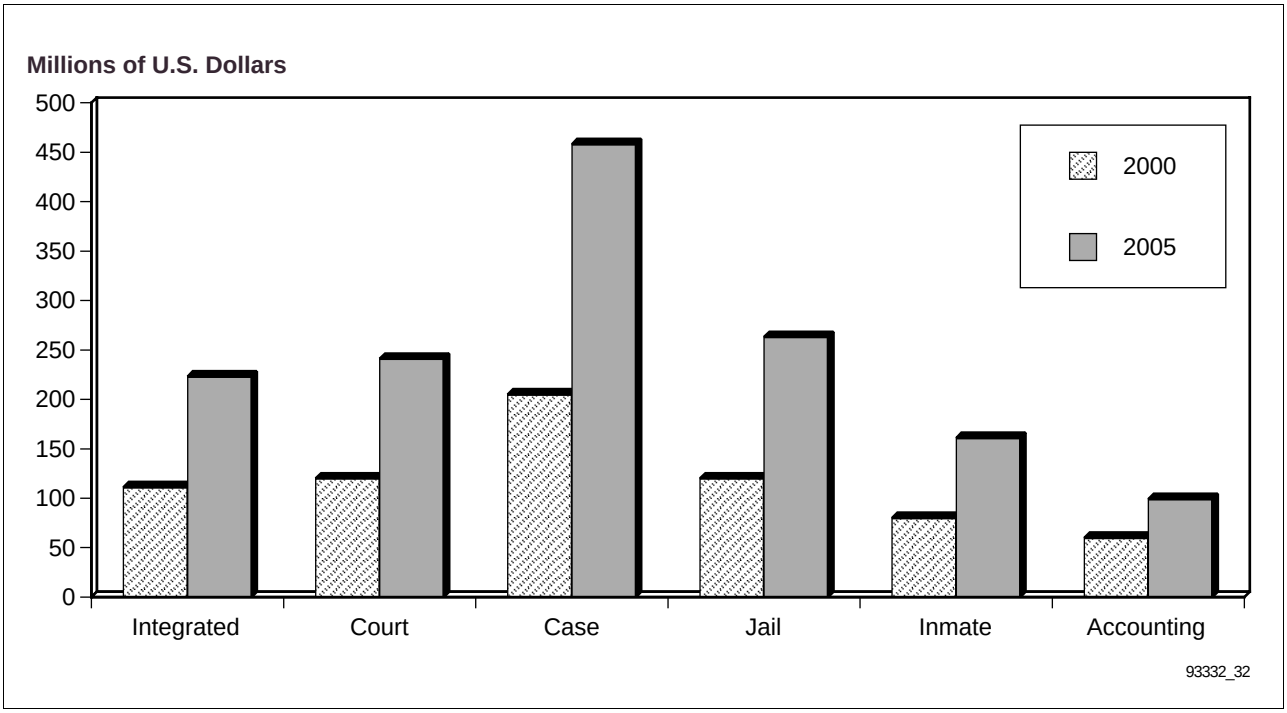
Figure 4-16 illustrates spending for major solutions in the criminal justice market segment.

Integrated Court Systems

Integrated court systems is a new solution area for Gartner Dataquest. Integrated court systems represent the justice linkage to enterprise systems such as CJIS. These systems also provide an array of services, from administration to case management to financial collection.

- In 2000, state and local governments are forecast to spend $111 million in this solution area. With an annual growth rate of 15 percent, expenditures in this category are expected to reach $223 million by 2005.
- Initiatives that drive governments to focus on the entire business process rather than individual components will drive spending in this category.

Figure 4-16
Solutions Spending for Departments Within Criminal Justice, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Court Management Systems

Court management systems help this market segment automate the daily operations of the court. This solution area would focus on scheduling, docket management, case listings, continuance management, and so forth. In many cases, this solution area comprises a number of small applications designed for niche providers.

- Expenditures in this category are forecast to reach $120 million this year. By 2005, this figure is expected to grow to $241 million.
- Since courts have traditionally shunned IT development, this solution represents one of the first areas of automation within this market segment.

Case Management Systems

Case management systems provide the ongoing record of individual court cases or individual convicts, depending on the market segment. This would include the storage, update and indexing of all cases. Traditionally, both courts and correction agencies have utilized independent systems that reflect their own unique needs.

- Courts and corrections agencies are expected to spend $115 million and $90 million, respectively, on this solution in 2000. Over the next five years, these expenditures are forecast to rise to $252 million and $206 million, respectively.
- Case management systems improve staff efficiency, eliminate redundant effort and reduce overall costs in this paper-intensive market segment.

- As these agencies begin to implement enterprisewide solutions, these dual systems will increasingly be integrated into one overall platform.

Jail Management Systems

Similar to court management systems, jail management systems help support the daily operations of the correctional facilities. This would include administration, scheduling, transfers, inventory management and maintenance. Jail management systems have become increasingly important given the rise in the inmate population.

- In 2000, state and local governments are expected to spend $120 million in this solution area. With an annual growth rate of 17 percent, expenditures in this category are forecast to reach $263 million by 2005.
- Typically, there are many correctional facilities in a given area and this solution helps provide centralized control and analysis of the facilities requirements.

Inmate Tracking Systems

Inmate tracking systems are critical tools in managing the ever-increasing prison populations. These systems enable workers to monitor inmate patterns, store identification information and provide case history information.

- Corrections agencies are expected to spend $80 million on inmate tracking systems in 2000. This figure is forecast to total $161 million by 2005.
- The demand for these systems is driven by the increasing security concerns within correctional facilities as well as the existence of rival gangs.

Accounting and Finance Systems

Both courts and corrections agencies maintain accounting systems to help manage revenue collection, budgeting and financial administration. In particular, courts utilize these systems to track court fees, fines and ticket collection.

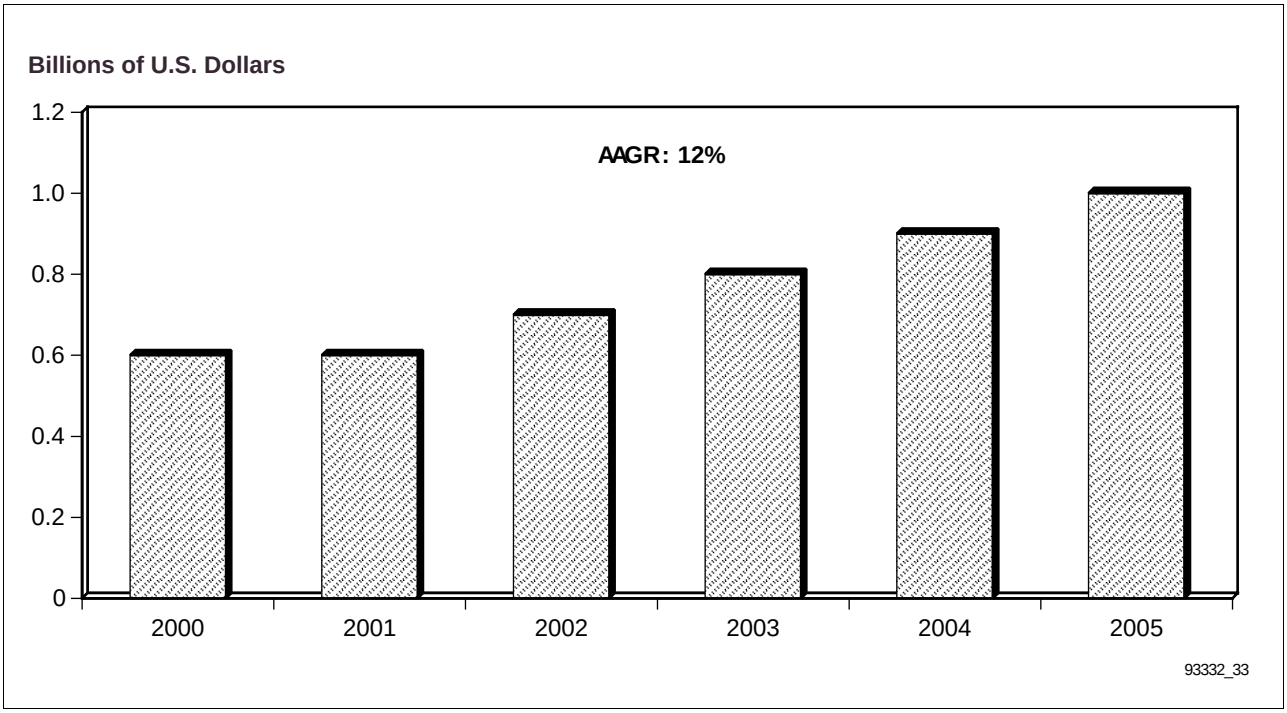
- Courts and corrections agencies are forecast to spend $30 million each on this solution in 2000. Over the next five years, these expenditures are expected to rise to $48 million and $51 million, respectively.
- In some cases, this functionality is built into the court and jail management systems.

Departments of Public Works Solutions Market, 2000 Through 2005

Departments of public works are agencies that are strictly at the local government level (county and municipal). This market segment is responsible for the maintenance and operation of the jurisdiction's physical infrastructure. These agencies provide services to clean roads, fix street signs and monitor public parks.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $552 million. Over the next five years, this figure is expected to reach $959 million (see Figure 4-17).

Figure 4-17
Public Works Solutions Spending, 2000 Through 2005



Source: Gartner Dataquest (November 2000)

The major solutions in this market segment include:

- GISs
- Project management systems
- Operations management systems
- CAD/CAE
- Inventory management systems
- Accounting systems

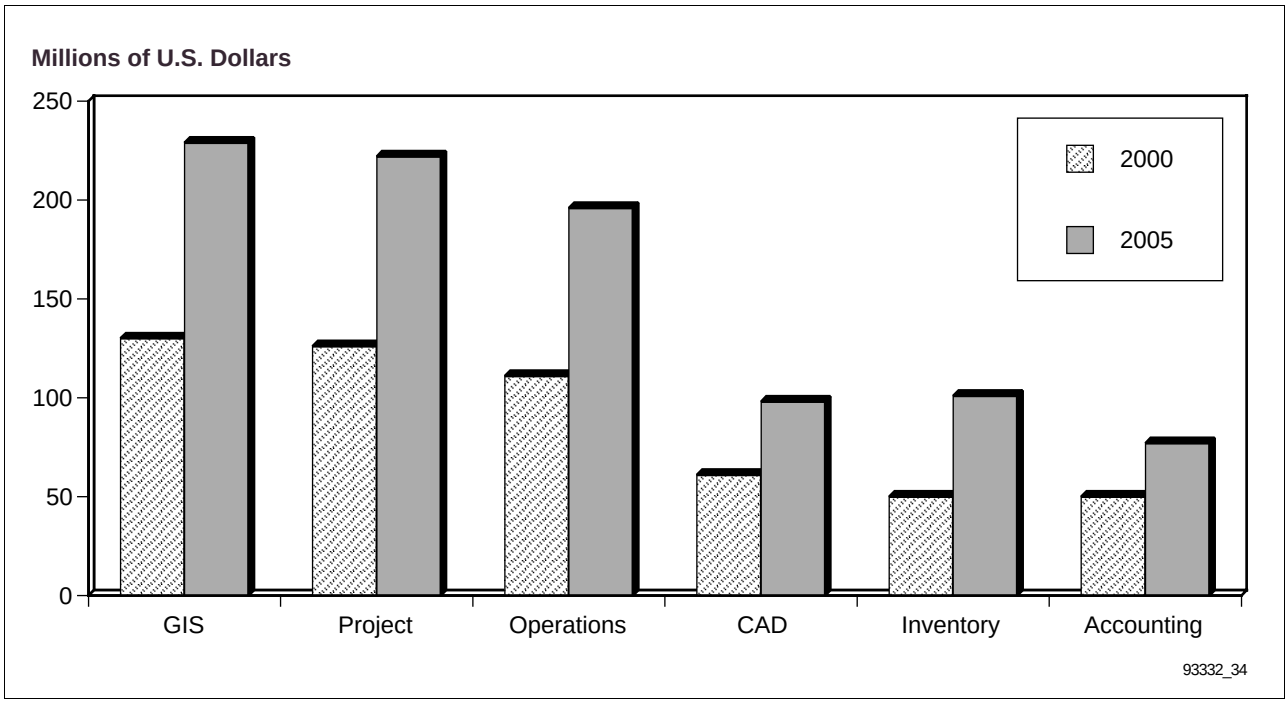
Figure 4-18 illustrates spending for major solutions in the public works market segment.

Geographic Information Systems

GIS is the cornerstone application of department of public works. Given the responsibility to track and manage the physical infrastructure, the GIS represents an efficient tool to create base engineering maps, map water, sewer and utility lines, and analyze future trends and patterns.

- In 2000, state and local governments are expected to spend $130 million in this solution area. With an annual growth rate of 12 percent, expenditures in this category is forecast to reach $229 million by 2005.
- GIS has widespread implementation in this marketplace. New developments will focus on upgrades or integration with other technologies (global positioning system [GPS], remote sensing) or other agency requirements (health, public safety).

Figure 4-18
Solutions Spending for Departments Within Public Works, 2000 and 2005



Source: Gartner Dataquest (November 2000)

Project Management Systems

Project management systems provide automated support for the completion of specified tasks. These systems enable workers to build project plans and timetables, manage outside contractors and track related projects.

- Gartner Dataquest estimates that $126 million will be spent on this solution in 2000. Over the next five years, this figure is forecast to grow to $222 million.
- Project management systems are often utilized by major functional area (sewer, utility, water and so forth).
- Contractor management and project scheduling / work flow management are key areas that spur systems implementation.

Operations Management Systems

Operations management systems are utilized to handle the daily requirements of this market segment. In particular, departments of public works must manage water, waste and sewer requirements of the locality. In contrast to project management systems, which focus on specific tasks such as sewer line replacement, operations management systems are responsible for the daily oversight of the functional area.

- In 2000, state and local governments are expected to spend $111 million in this solution area. With an annual growth rate of 12 percent, expenditures in this category is forecast to reach $196 million by 2005.
- The focus on managing the physical infrastructure will continue the modest demand for systems updates and development.

CAD/CAE Systems

Similar to departments of transportation, public works agencies utilize CAD/CAE systems to facilitate the design of complex, interdependent infrastructure projects as well as automate the drafting process. These systems expedite the development of new infrastructure for the locality.

- Gartner Dataquest forecasts spending on this solution will be $61 million in 2000. This figure is expected to reach $98 million by 2005.
- This functionality is vital to the primary objectives of public works agencies.

Inventory Management Systems

Departments of public works utilize inventory management systems to manage incoming supplies, monitor existing inventory levels and control material orders. These systems enable the agency to keep up to date with the requirements of the locality, from more paint for the signs to replacement light bulbs.

- In 2000, state and local governments are expected to spend $50 million in this solution area. With an annual growth rate of 15 percent, expenditures in this category is forecast to reach $101 million by 2005.
- Inventory management systems are useful during the construction of large-scale projects in which the monitoring of raw materials is vital to project completion.

Accounting Systems

Given the responsibility of providing water and removing waste, departments of public works generate income from these activities. As a result, the agencies utilize accounting systems to help track incoming revenue and monitor expenses for large-scale projects.

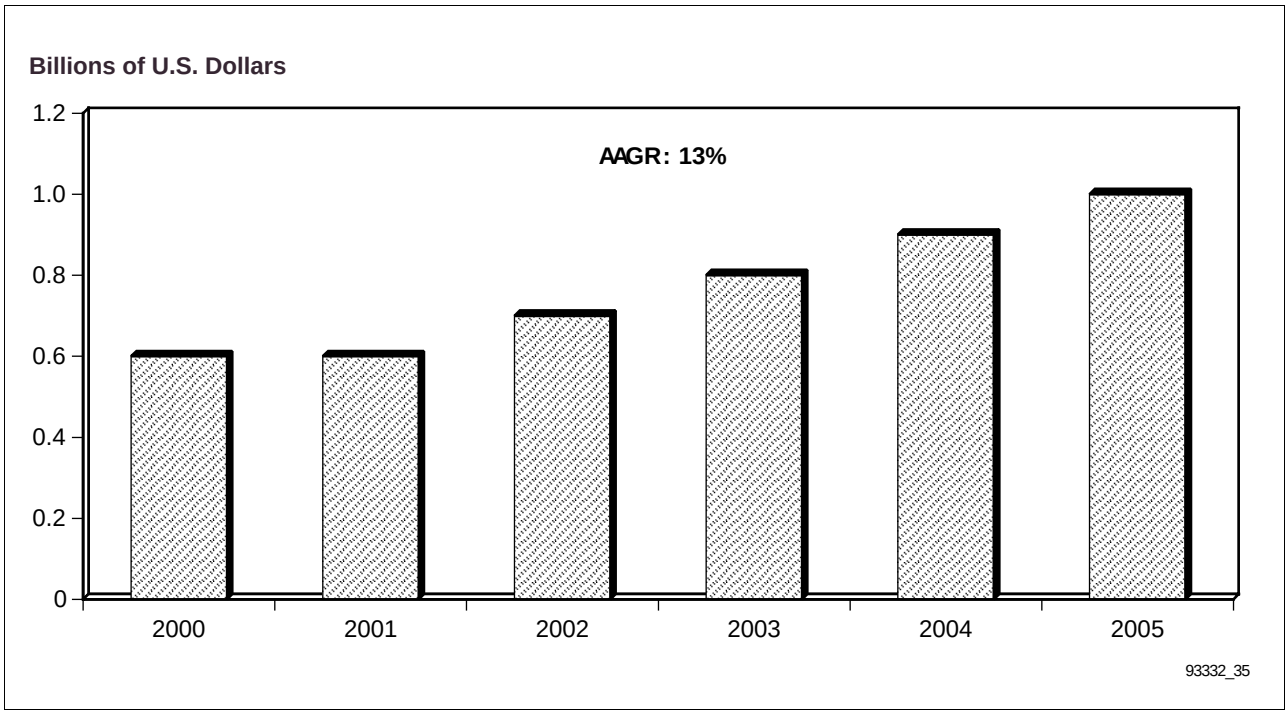
- Departments of public works is expected to spend $50 million on accounting systems in 2000. By 2005, this figure is forecast to reach $77 million.
- Accounting systems often have other modules such as billing, contracts and financial management.

Departments of Natural Resources Solutions Market, 2000 Through 2005

Departments of Natural Resources are responsible for tracking, maintaining and protecting environmental concerns within the jurisdiction. These agencies focus their attention on issues such as land management, water treatment and air quality. In many respects, these agencies provide the state and local administration of federal environmental requirements.

Gartner Dataquest estimates that total solutions spending in 2000 within this market segment is $570 million. Over the next five years, this figure is expected to reach $1.0 billion (see Figure 4-19).

Figure 4-19
Natural Resources Solutions Spending, 2000 Through 2005



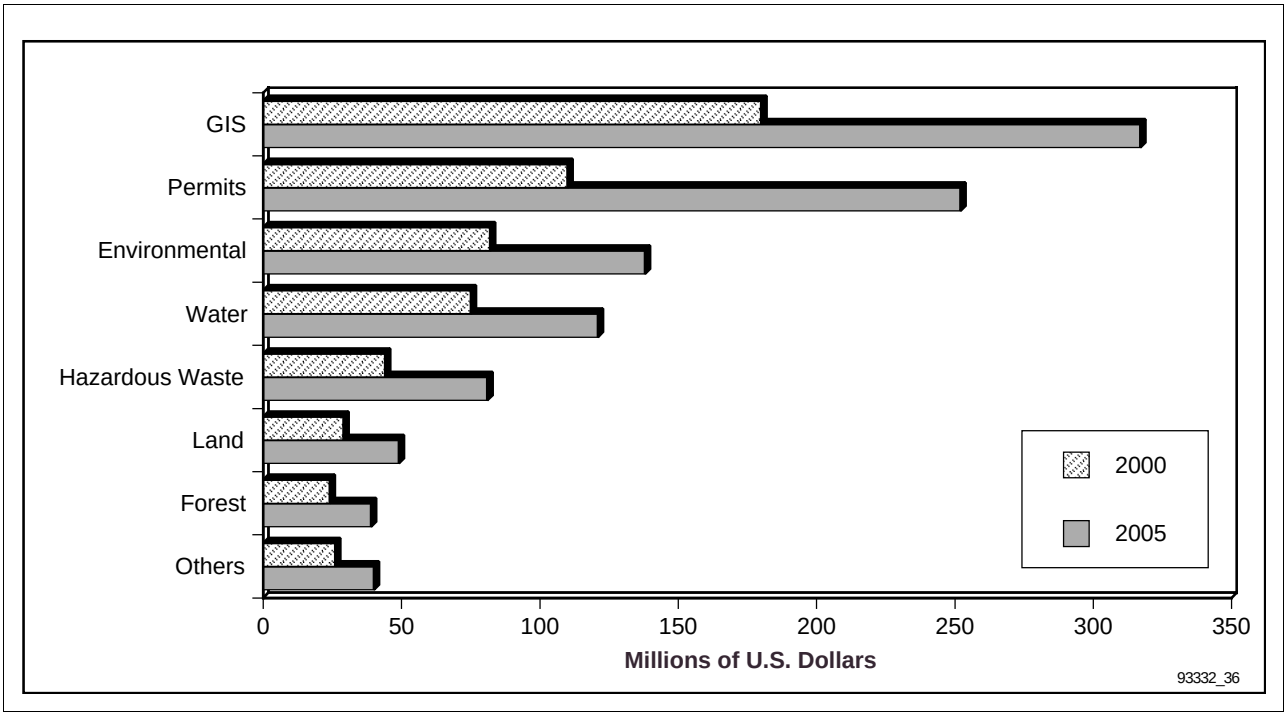
Source: Gartner Dataquest (November 2000)

The major solutions in this market segment include:

- GISs
- Permitting systems
- Environmental systems
- Hazardous waste systems
- Water resource management systems
- Land resource management systems
- Forestry management systems

Figure 4-20 illustrates spending for major solutions in the natural resources market segment.

Figure 4-20
Solutions Spending for Departments Within Natural Resources, 2000 and 2005



Source: Gartner Dataquest (November 2000)

GISs

GIS is the cornerstone application of department of natural resources. The GIS provides tremendous functionality through the automation of maps as well as the ability to analyze spatial data. The GIS is utilized extensively in programs that focus on city planning, urban crawl, marine population and environmental management.

- In 2000, state and local governments are expected to spend $180 million in this solution area. With an annual growth rate of 12 percent, expenditures in this category are forecast to reach $317 million by 2005.
- Although the market has a considerable installed base of GIS, the significant crossover benefits of this solution continue to provide funds for upgrades and new development.

Permitting Systems

Given the responsibility for environmental management, departments of natural resources typically administer the distribution of hunting, fishing, park and boating licenses and permits. These systems are one of the hottest areas of growth within this market segment.

- Gartner Dataquest estimates that $110 million will be spent on permitting systems this year. With a growth rate of 18 percent, expenditures in this category is forecast to climb to $252 million by 2005.
- State and local governments are rapidly moving this functionality online to provide robust capabilities for the citizen.
- Popular applications are installed in Utah, California and New Mexico.

Environmental Control Systems

Environmental control systems fulfill two major functions: monitor air and water pollution; and support state and local government compliance with federal Environmental Protection Agency (EPA) regulations.

- In 2000, state and local governments are expected to spend $82million in this solution area. With an annual growth rate of 11 percent, expenditures in this category are forecast to reach $138 million by 2005.
- Compliance with the Clean Air Act, Clean Water Act and other federal mandates have spurred implementation in this area.

Water Resource Systems

Departments of natural resources are responsible for the proper maintenance of groundwater, drinking water, streams, harbors and wetlands. These agencies utilize water resource systems to monitor, control and regulate the government-controlled water resources.

- Spending on water resource systems is expected to total $75 million in 2000. The expenditure is forecast to grow to $121 million by 2005.
- Water resource systems indicate the effect of changing weather patterns or population growth on water quality and availability.

Hazardous Waste Management Systems

Hazardous waste management systems help environmental agencies monitor the safe disposal of toxic materials and ensure that those involved in the process comply with all federal regulations. This is a growing area of responsibility for departments of natural resources.

- In 2000, state and local governments are forecast to spend $44 million in this solution area. With an annual growth rate of 13 percent, expenditures in this category are expected to reach $81 million by 2005.
- These systems are often linked with emergency management programs within the jurisdiction.

Land Resource Management Systems

Land resource management systems are utilized to monitor land use, mining areas, parks and open space. Departments of natural resources also utilize land resource management systems to determine whether particular sites are amenable for development and to plan for urban sprawl.

- Expenditures on these systems are expected to reach $29 million. By 2005, spending is forecast to total $49 million.
- These systems are often utilized to assess the impact of population growth, over-mining, and so forth on land use.

Forestry Management Systems

Forestry management systems typically focus on timber management, resource mapping and contractor history. These systems help environmental agencies comply with regulations as well as understand the impact of deforestation. Obviously, these systems are in use in timber-heavy states.

- In 2000, state and local governments are forecast to spend $24 million in this solution area. With an annual growth rate of 10 percent, expenditures in this category are expected to reach $39 million by 2005.
- Fire protection and reporting systems are increasingly being incorporated into forestry management systems.

Chapter 5
Competitive Analysis

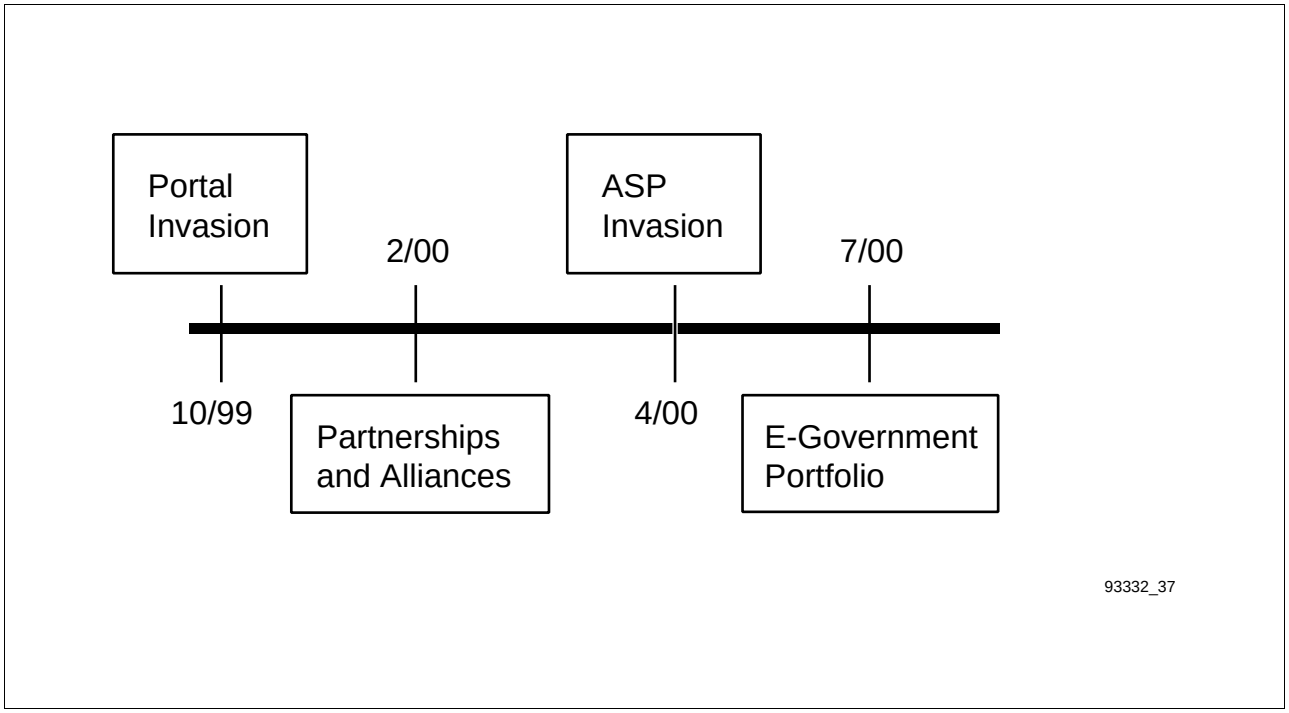
The rapid changes in the IT needs of the state and local government marketplace outlined in Chapter 3 have had a direct impact on the vendor community. In particular, the emergence of e-government as the hottest area of IT development has forced vendors to act. Over the past two years, Gartner Dataquest has seen the following shifts in the competitive landscape:

- Invasion of the dot-com portal players
- Development of new portfolio of solution offerings
- New partnerships and strategic alliances
- Birth of new business models

Figure 5-1 provides an approximate timeline for some of the key issues that have arisen over the past 18 months. Figure 5-1 illustrates the emergence of the portal players, the birth of the ASPs, the rise of the systems integrators, strategic partnering, and the focus on the portfolio of e-government solutions that is driving the industry.

This section will review some of the major changes in the competitive landscape with respect to e-government. Gartner Dataquest will also provide a competitive matrix to highlight the relative positioning of the major services firms in this marketplace.

Figure 5-1
Competitive Landscape Timeline



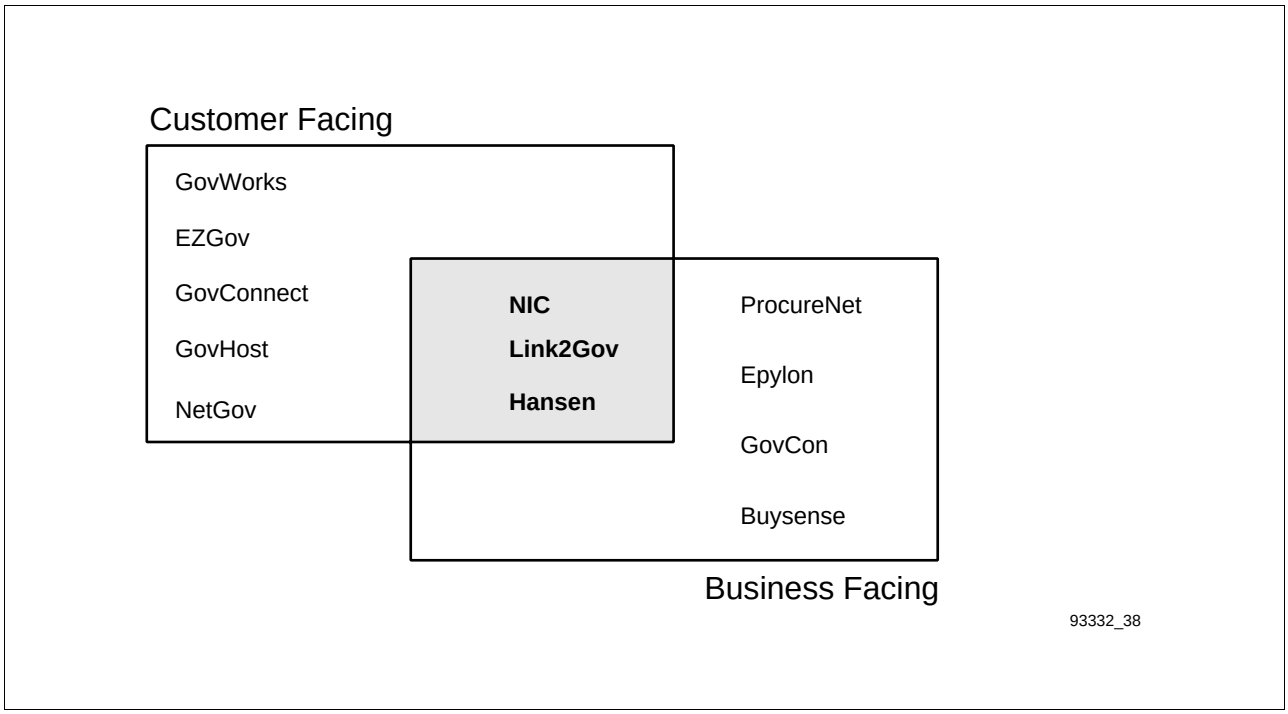
Source: Gartner Dataquest (November 2000)

Invasion of the Dot-Coms

Over the past 18 months, a number of new dot-com companies have emerged in the state and local government marketplace (see Figure 5-2). In many respects, these companies were at the forefront of the e-government trend, educating the marketplace on what the Internet may mean to state and local governments, citizens and businesses. Some of the best examples of the first wave of dot-com companies are NIC, EZGov and GovWorks. These companies marketed themselves aggressively: quickly building awareness, identifying a value proposition and developing key relationships with state and local governments. More importantly, these firms struck unexpectedly. The traditional systems integrators, which have dominated this marketplace, were largely caught off guard. This first mover advantage enabled a number of these firms to rapidly establish themselves and win contracts.

However, the long-term assessment of many of these new companies is less certain. Like Internet companies in other industries, a number of these firms have had a difficult time creating a loyal customer base and driving revenue. A number of these firms also made a major blunder by following a market strategy based on disintermediation. By focusing on providing services to the citizen first and establishing partnerships with government as a distant afterthought, a number of these firms alienated key decision makers within state and local governments and are still having trouble rectifying this market positioning.

Figure 5-2
Invasion of the Dot-Coms



Source: Gartner Dataquest (November 2000)

In contrast to many of their dot-com brethren, NIC made a number of steps early on, which established the company as a premier vendor in the e-government space. First, the company has strongly relied on a joint venture strategy with governments, not disintermediation. This enabled the firm to partner with state and local governments and build reference accounts and experience in this ever-changing marketplace. Second, the company made several strategic acquisitions early on to help establish a broader portfolio of services offerings and skill sets. Third, NIC has evolved to establish alliances with companies as diverse as AOL and Deloitte to resolve two important challenges of e-government:

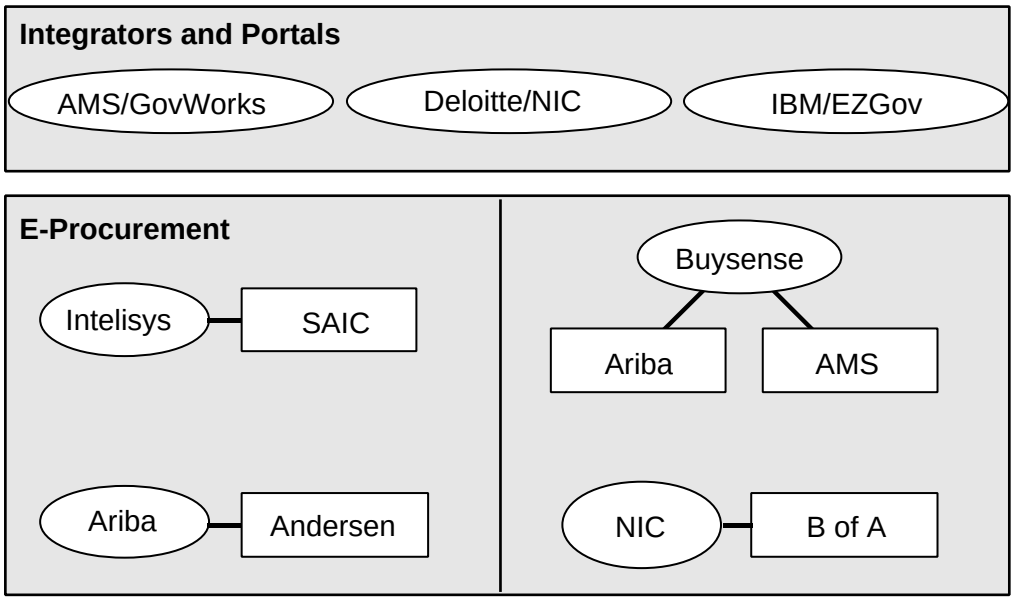
- Increase "eyeballs," transaction volumes and penetration rate
- Provide consulting and integration services to tie online and offline systems

Strategic Alliances and Partnerships

As the market has matured, vendors have realized the importance of establishing key alliances and partnerships (see Figure 5-3). In many respects, the trend toward alliances consists of three phases:

- Creating a front-end offering (for example, portals)
- Establishing e-government solution offerings (for example, e-procurement)
- Developing a channel for the mid-market (for example, ASPs)

Figure 5-3
Alliances and Partnerships



Source: Gartner Dataquest (November 2000)

The invasion of the dot-coms and the receptiveness in the marketplace for their message definitely caught the Tier-1 systems integrators off guard. In a few short months, portal companies were the top attraction in the state and local government marketplace. As a result, the portal play was the first line of strategic partnerships and alliances:

- AMS and GovWorks: In contrast to many of the other alliances and partnerships examined in this section, AMS made a strategic *investment* in GovWorks as part of their alliance.
- IBM and EZGov: After the AMS/GovWorks *investment*, IBM made a strategic partnership with EZGov to provide combined services to state and local governments. These two companies have formed a strategic partnership to offer EZGov's portal and G2C solutions to the marketplace with IBM's vast professional services and hardware expertise. The two companies have worked on several e-government projects.
- Deloitte and NIC: The last of the major portal partnerships, Deloitte and NIC have formed an alliance to focus on the major related pieces of e-government implementation. NIC will continue to form strategic partnerships with governments to develop state portal and functional applications for citizens while Deloitte will bring front-end consulting experience as well as back-end integration services to link online and offline applications.

As the demand for e-government services expanded, the breadth of strategic partnerships and alliances increased as well. In particular, e-procurement has rapidly become the killer application of e-government. There are three key components of a typical e-procurement partnership: procurement software providers, systems integrators and financial institutions. The following list of the major vendors in each category is provided:

- E-procurement software vendors
  - Ariba
  - Commerce One
  - Intelysis
  - NIC Commerce
- System integrators
  - AMS
  - Andersen Consulting
  - KPMG
  - SAIC

- Financial institutions
  - Bank of America
  - Citibank
  - GE Capital

Across these three major categories, vendors quickly aligned themselves to stake out critical areas in the competitive landscape. Some of the major alliances in the marketplace include:

- AMS and Ariba. AMS teamed with Ariba, one of the leading e-procurement software vendors, to form a hosted ASP company named Buysense.com. This partnership provides e-procurement functionality for state and local governments through a per-month, per-transaction funding model. The partnership has captured early engagements in Washington and Arizona State University.
- Andersen Consulting and Ariba. As one of the leading e-procurement software vendors, Ariba has also partnered with Andersen to bid on other e-procurement opportunities. To date, the alliance has paid dividends with wins in California, Michigan and North Carolina.
- SAIC and Intelisys. A more traditional alliance between a systems integrator and procurement software company, these two companies have formed successful partnerships in Massachusetts and Maryland and are jointly bidding on upcoming e-procurement opportunities.
- NIC Commerce and Bank of America. In contrast to some of the other partnerships in the marketplace, NIC's strategic alliance with Bank of America underscores the importance of financial institutions to this process in providing a high degree of value-added services. The partnership has been effective at the federal level and is a promising offering in the state and local government marketplace. NIC Commerce is also working with Deloitte Consulting to provide consulting and integration services.

Please note that this is only a representative list of the e-procurement players. Other traditional systems integrators (IBM, EDS) and software firms (SAP, Oracle, Microsoft) are focused on this marketplace, have established e-procurement contracts, and are building alliances and partnerships of their own.

Strategic partnerships and alliances have continued as the e-government marketplace evolves. In particular, the growing interest in ASPs has again forced the tradition systems integrator community to act. Already, the alliance of AMS and Ariba in Buysense.com is an important validation of the growing interest in the ASP model. Although these partnerships are less mature, they still represent a growing channel for e-government development. A representative list of alliances in this marketplace include the following:

- AMS and Ariba
- NIC and Tidemark
- Unisys and Tidemark
- Microsoft and Carta
- Deloitte and Epylon
- Andersen Consulting and Epylon
- SCT and Netgov

State and Local Government Competitive Matrix

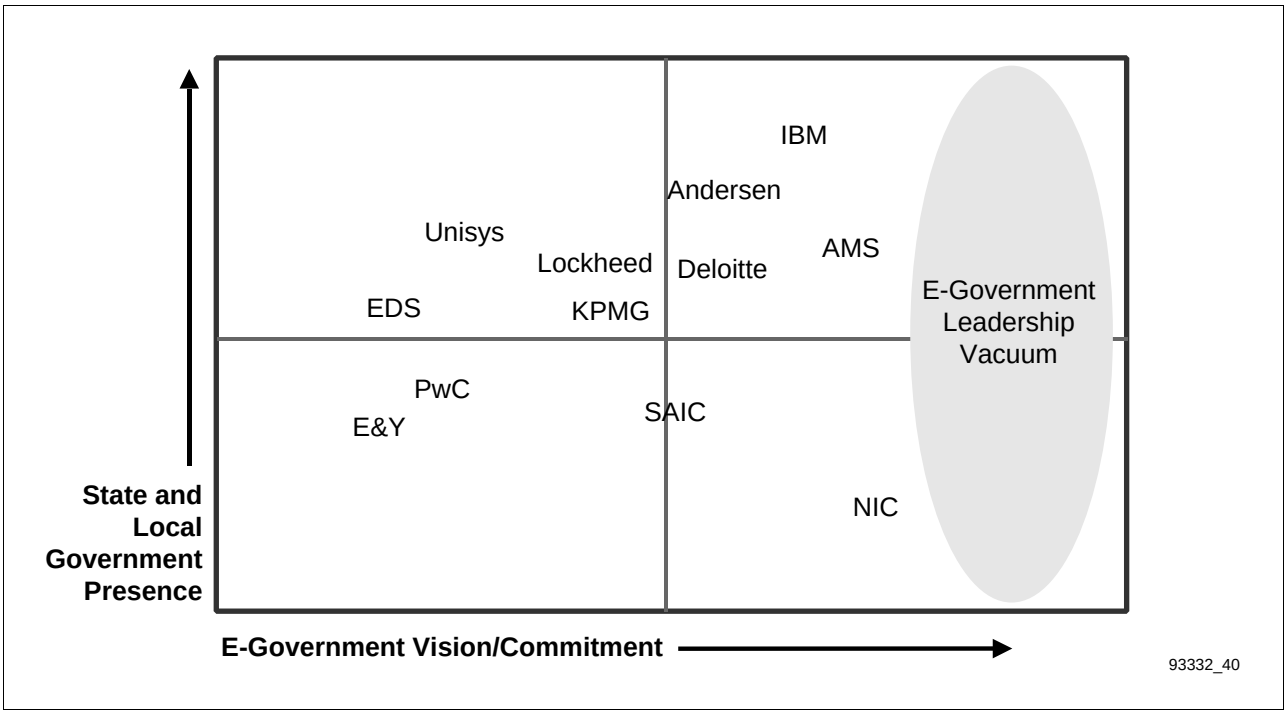
Gartner Dataquest has developed a competitive matrix to analyze the relative positioning of the top professional services firms with respect to e-government. Please note that this matrix is not meant to be a traditional Gartner Dataquest Magic Quadrant. Instead, the matrix should be utilized as a snapshot in time to assess the top vendors' expertise in the state and local government marketplace as well as the firms' vision for e-government. In this ever-changing marketplace, there will be distinct issues (wins, alliances, success of solutions and so forth) that occur over the next six to 12 months that may dramatically change the relative positioning of the vendors listed.

The matrix is based on the following criteria:

- State and local government presence (y-axis). Gartner Dataquest believes that vendors that have long-term relationships, experience and service to the state and local government marketplace have developed an understanding of the idiosyncrasies of the public sector marketplace and can best address the unique industry characteristics. As a result, the category of state and local government presence consists of a number of key components: depth of agency expertise, breadth of agency expertise, revenue derived from state and local government, established alliances and reference accounts.
- E-government vision (x-axis). Given the infancy of this marketplace, Gartner Dataquest believes that vendors must display a rounded approach to e-government that can adapt to market changes. Consequently, the major components of e-government vision are: e-government strategy, e-government skill set, e-government alliances, e-government documentation and e-government market message.

Figure 5-4 illustrates the relative positioning of the vendor community in this marketplace.

Figure 5-4
State and Local Government Competitive Matrix



Source: Gartner Dataquest (November 2000)

Gartner Dataquest believes there are four major categories in which these vendors may be grouped:

- Group 1: Early movers — This group consist of the vendors that first trumpeted the benefits of e-government and established marketing messages and alliances early on to capture on the growing opportunity taking shape.
  - IBM — A state and local government stalwart, IBM was one of the first vendors that articulated an e-government message, established a center to research these issues and developed an alliance with a portal firm. Success with Arizona's online driver's license system is also an important strength.
  - AMS — A respected state and local government firm, AMS was one of the first vendors to focus on the stages of e-government implementation and develop a long-term strategy to help clients achieve multiple steps in the e-government process. In particular, AMS' early strategic partnerships with GovWorks (portal), Ariba and Free Markets (procurement and auction), and Siebel (CRM) created a unique market position for the company. The firm's innovative e-procurement contract with Washington is also an important strength.

- NIC — In contrast to the Tier-1 professional services firms examined on this list, NIC's overwhelming presence in the portal space has made this company a prominent e-government player. The list of the company's state portal contracts underscores NIC's early commitment to e-government. The company has also made significant acquisitions to round out the portfolio of services (E-Fed, SDR and investment in Tidemark) as well as made an important alliance with Deloitte Consulting, another well-respected state and local government firm. NIC's 12 state portal contracts and recent e-procurement wins are important strengths for the company.

- Group 2: Recent advancers — Although this group of vendors was not very active in the initial stages of e-government, all three of these companies (Andersen, Deloitte and SAIC) have made significant advances over the past six months to challenge the early mover firms. In many respects, these firms have developed similar strategies initiated by the early mover group and have reduced their initial advantage significantly. This group also underscores the importance of having a strong presence in the marketplace and adding e-government services to that base of knowledge.

  - Andersen Consulting — A state and local government leader, Andersen has made the most significant strides over the past six months. The company has established strategic alliances with Ariba to capture e-procurement opportunities and worked with Yahoo to deliver content. The company has aggressively courted customers to develop their state portals. In particular, Andersen's wins in California, North Carolina and Wyoming reflect the company's growing strength in the e-government marketplace.

  - Deloitte Consulting — A respected state and local government firm, Deloitte has taken a relatively cautious approach to the e-government marketplace. Rather than focus on market hype, the company worked with existing clients and private sector partners to understand which applications and services would be most beneficial in the e-government marketplace. Armed with this research, Deloitte has now come to market with e-government alliances (NIC, Web Methods, Chase and so forth). The company is also uniquely positioned to capture opportunities in two key market segments that have more complex e-government requirements: health and human services.

  - SAIC — Although the company is more well-known for work at the federal level, SAIC has established a number of key relationships at the state and local government level that has differentiated the firm from the pack of other e-government vendors. In particular, SAIC's alliance with Intelisys produced an early involvement in a key e-government pilot project (E-mall) and now has produced two major e-procurement wins in Massachusetts and Maryland.

- Group 3: Growing adoption — This group of vendors has made a number of smaller steps in the e-government marketplace. In many respects, these firms have made definite strides in specific areas but are still at the threshold of creating a holistic look at the marketplace.
  - Lockheed — Although Lockheed has been a significant player in the state and local government marketplace, the firm has not publicized and educated the market about the breadth and depth of service offerings. With respect to e-government, the firm's history in payment collection and processing will position the company very effectively. Key areas of focus include ticket collection, toll collection and Medicaid processing.
  - KPMG — KPMG's dedication to front-end consulting serves an important role in moving state and local governments from simply building an e-government presence to truly transforming the organization of government. The firm has participated in a number of state-level consulting projects and has developed working relationships with key e-government companies: SAIC, Intelisys, SAP and Cisco.
  - Unisys — Unisys has made some strategic alliances to help bring the company into the mainstream of e-government project development. The company is working with both Microsoft and Carta to bring e-government services to the marketplace. However, Unisys has struggled with the company's strategic vision with respect to e-government and will require more time to move into the next segmentation tier.
- Group 4: Late to the game — This group of vendors has largely been absent from the significant changes in market opportunity brought forth by e-government. In many respects, these firms are still internally developing strategies to attack this marketplace.
  - EDS — In many respects, EDS has focused on other aspects of the state and local government marketplace. The company has always been a leader in Medicaid claims processing and was involved in negotiations to provide complete outsourcing to Connecticut. With respect to e-government, however, the company has not established a strong market message in the United States. However, the company's success in transforming international public sector organizations may be advantageous for future U.S. opportunities.
  - PricewaterhouseCoopers — To a certain extent, PwC has been on the sidelines of e-government because of the vast internal challenges of integrating two large companies. The company does not seem to have an overarching e-government strategy and has not captured significant e-government clients. However, PwC has recently hired Rick Webb, former CIO of the Year at North Carolina, to lead the company's e-government efforts. This is a positive first step in focusing on the burgeoning opportunities taking shape in this marketplace.
  - Ernst & Young — Like PwC, Ernst & Young has to focus on integration issues because of the recent acquisition by Cap Gemini. However, the firm's focus on the public sector marketplace has never been that significant.

Despite the relative positioning and grouping of these vendors, the end result is still the same: there is an e-government leadership vacuum in the state and local government marketplace. Although the vendor community has been vital to educating public sector organizations, developing a vision to show where e-government can lead to and forming partnerships with many prestigious private sector vendors that have no public sector expertise, no single vendor can be identified as the clear leader in e-government. To a large extent, this reflects the relative infancy of the e-government marketplace. Gartner Dataquest expects this matrix to be fluid and will undergo significant changes in relative positioning as the market begins to mature.

Chapter 6
Gartner Dataquest Perspective and Recommendations

The state and local government marketplace is in the midst of continuous change. The underlying business drivers, technology trends and IT spending patterns have never been more in a state of disruption. Some of the pressing issues taking shape include:

- Wholesale departure of CIOs and growing internal skills shortage
- Continuing focus on business of government
- Increased customer service requirements
- Improved autonomy from federal government mandates
- Rise of e-government

Despite the relative chaos, state and local governments continue to make significant progress with respect to the utilization of IT. In fact, state and local governments are at the forefront of a revolution. Clearly, the focus on e-government has brought significant changes to the marketplace that extend beyond simple systems implementation. E-government represents the power to truly reinvent relationships and transform the role of the public sector.

Gartner Dataquest believes that the combined effect of all of these pressing issues will be the increased utilization of external service providers to help state and local government agencies move into the 21st century. In particular, Gartner Dataquest believes the most significant areas of growth will be in the services areas where state and local government agencies work with vendors to redesign business processes as well as utilize their expertise for solutions implementation.

E-Government: Demand Side

The rise of e-government has been quite rapid. State and local governments have embraced this concept like no other technology initiative. In many respects, e-government is not viewed as a technology tool but as a fundamental shift in the organization and business of government. Some of the most important issues in the marketplace today are:

- Active involvement of political and business line officials in e-government projects
- Killer e-government application: e-procurement
- Focus on G2C solutions (Internet tax filing, online driver's license, e-permits and so forth)
- Growing interest in alternative funding concepts to acquire functionality now
- Unresolved questions: hidden costs of e-government, integration of offline/online solutions and advertising

All of these issues represent significant departures from the traditional way of technology procurement and implementation. In the past, non-MIS personnel viewed IT as a cost center. Now, politicians and agency directors believe technology is a strategic weapon. In the past, technology acquisition was a deliberative process that included formal needs assessment, investigation of appropriate vendors, formation of evaluation committees, structured RFP rules and so forth. Now, state and local governments utilize RFPs to address problems and receive proposals that run the gamut of business models, technology architectures and funding requirements.

Gartner Dataquest believes there are a number of new paradigms that are being shaped by the current market environment.

- Trend No. 1 to watch — The movement in funding of IT initiatives is one of the most important trends. Increasingly, funding for e-government projects are moving from the traditional IT budget and being embedded into the daily operational budget of the agency, supported by customer convenience fees, or obtained from vendors through participation fees. This transition represents enormous upside potential for the vendor community because the funding mechanism for these projects is evolving from fixed IT budgets to higher operational budgets, unlimited transaction potential and new funding sources (citizens and vendors).
- Trend No. 2 to watch — The involvement of state governors and agency directors has had a profound impact on the procurement process. These two groups have been able to rapidly build consensus, focus available resources and politicize technology priorities. This has resulted in reduced sales cycles, improved funding and focus on government to "voters" applications.
- Trend No. 3 to watch — Like no other technology initiative, e-government is bringing new levels of automation, customer outreach and business services to the local government marketplace. New pay-as-you-go funding models have spurred the ability to adopt new solutions for areas such as permitting, vital records and business licenses. This may represent a technology renaissance for the local government marketplace.

E-Government: Supply Side

As the pitch of e-government implementation continues to spread across the nation, there is a distinct difference in approach to the growing market phenomenon by the vendor community. In particular, the traditional systems integrators that have long dominated this marketplace are experiencing varying levels of success with respect to their e-government strategy. New classes of vendors with innovative business models have made significant inroads in this marketplace. Some of the most important issues in the marketplace today are:

- The invasion of the dot-com portal players
- ASPs — The birth of a new business model
- The emergence of nonpublic sector dedicated firms
- Unresolved issues: disintermediation, convenience fees, sale of personal data

The competitive landscape will undoubtedly undergo a major shakeout. As the e-government market matures and business models come and go, the vendor community will experience mergers and acquisitions, vendor departures and the birth of even another class of vendors.

Gartner Dataquest believes that there are a number of new paradigms that are being shaped by the current market environment.

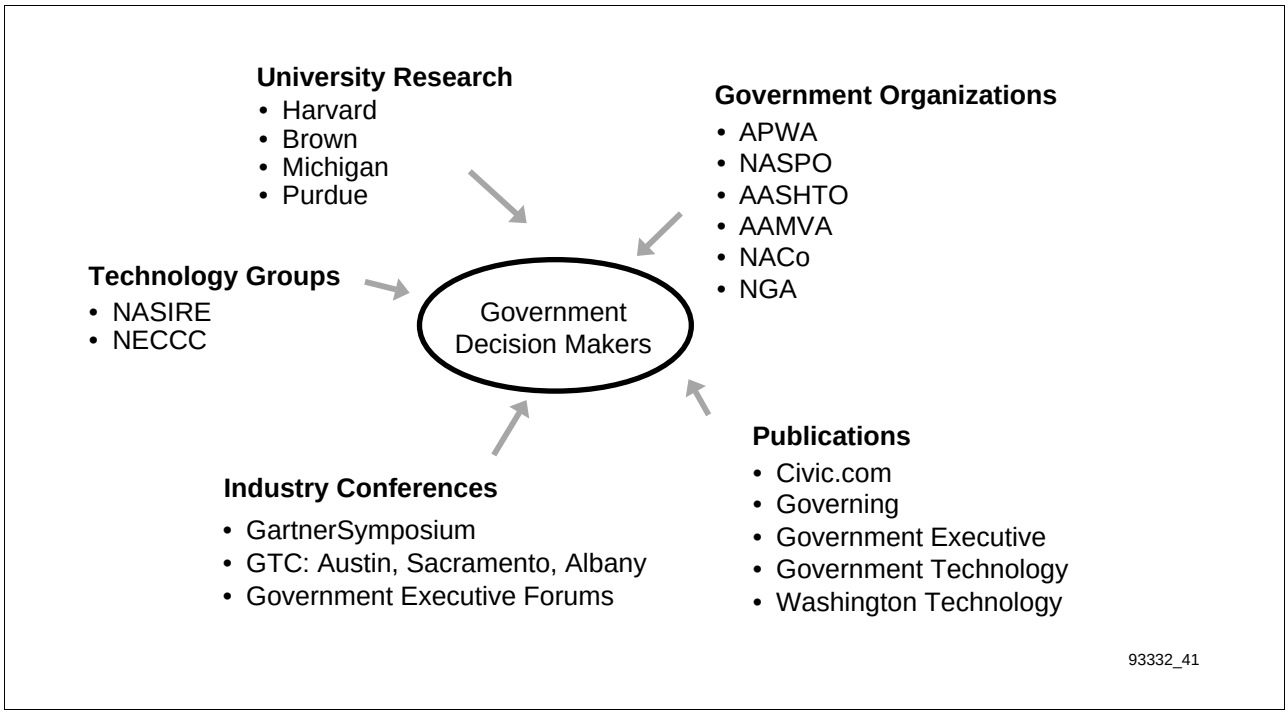
- Trend No. 1 to watch — Disintermediation is a failed business strategy and should die within the next year. State and local government decision makers feel alienated by these firms and will force vendors to stop this approach. However, after vendor partnerships with governments are reaffirmed, the ability to draw traffic from nongovernment sites such as Yahoo or AOL will be a major competitive differentiator.
- Trend No. 2 to watch — ASPs: live or die? ASPs are an unproven model and the drawbacks to the ASP approach are significant: Governments prefer custom-tailored implementation; there is no standardization of definitions (for permits, licenses and so forth) from jurisdiction to jurisdiction; local governments (the ASP sweet spot) that favor local presence are numerous and spread out across the entire country. However, the prospect of low upfront integration costs and monthly usage fees is an extremely appealing idea in the marketplace.
- Trend No. 3 to watch — Current e-government transaction volumes and penetration rates are extremely low. If program marketing, customer outreach and incentives do not drive utilization, will the e-government train come to a halt? Likewise, if utilization is driven, the ability for vendors to handle large volumes of traffic will be key to survival. Given the proliferation of unproven e-government vendors, this looms as a critical issue to be overcome.

Gartner Dataquest believes the e-government phenomenon will continue to have a significant impact on the marketplace for years to come. Even though e-government solutions spending presently only represents a small fraction of total IT spending, the movement to acquire online functionality and to utilize consulting services to redesign government service delivery will have a profound impact on future technology expenditures.

Recommendations

The state and local government marketplace is broad and diverse. With 50 states, 19,000 cities and 3,200 counties spread out across the nation, the state and local government marketplace can seem quite daunting. However, there are tangible steps that vendors can take to connect with the marketplace. The first critical step is to acknowledge that there are seven major agency segments in this marketplace that share deep commonalities with one another despite the apparent geographical separation. For example, the California Department of Transportation is similar to the Michigan Department of Transportation. As a result, agency-specific marketing can narrow the robust set of jurisdictions (22,250 plus) into seven manageable segments. Secondly, vendors can reach key decision makers within these seven segments across the nation by tapping into the groups that influence the marketplace. Figure 6-1 illustrates the key publications, government associations, research firms, conferences and national organizations that inform the key decision makers at state and local governments across the country.

Figure 6-1
State and Local Government Key Influencers



Notes: APWA = American Public Welfare Association
NASPO = National Association of State Purchasing Officials
AASHTO = American Association of State Highway and Transportation Officials
AAMV = American Association of Motor Vehicles
NGA = National Governors Association
NECCC = National Electronic Commerce Coordinating Council
Source: Gartner Dataquest (November 2000)

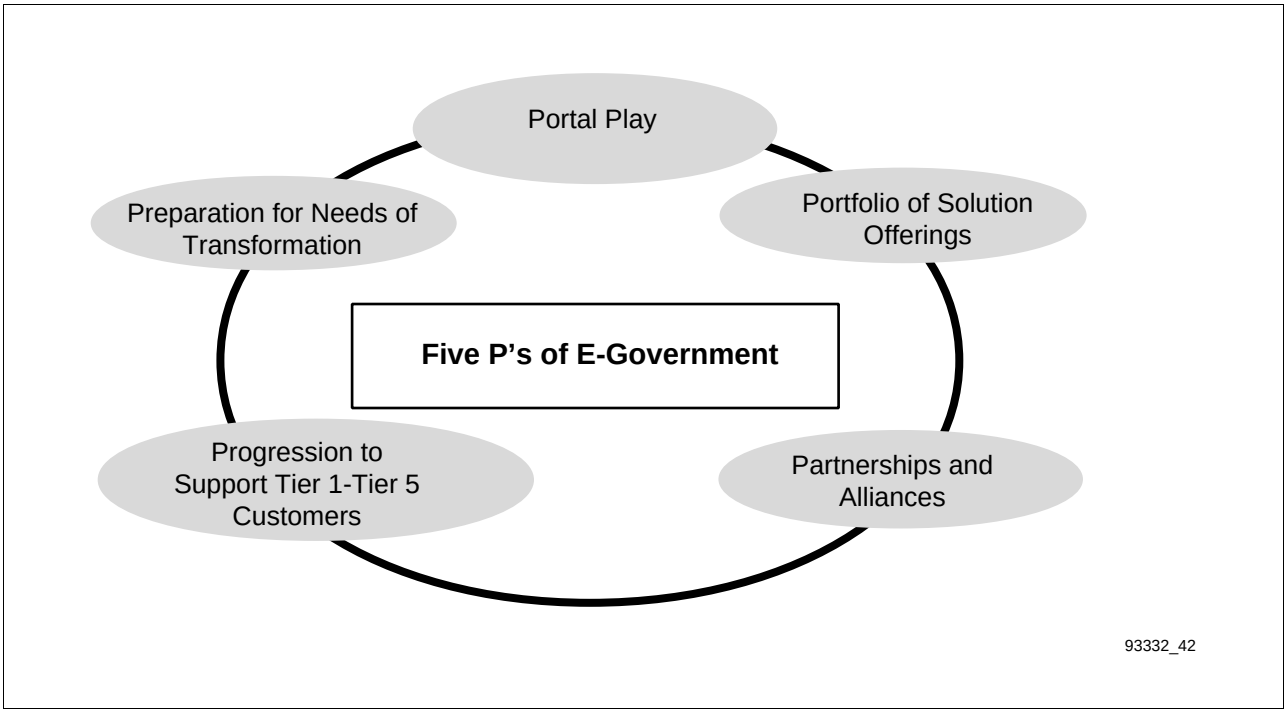
Given this framework, some key targeted recommendations for the marketplace include the following:

- Understand public sector business processes
- Build portfolio of solution offerings
- Focus business development on both the MIS house and business line professional
- Emphasize scope of services capabilities and skill sets
- Connect with key influencers
- Build key government relationships and contracts
- Partner with government agencies to build reference accounts
- Establish an e-government presence

With specific reference to e-government, however, there are discrete recommendations that Gartner Dataquest believes are vital to success in this marketplace, which include the following:

- Eliminate disintermediation strategies
- Reduce reliance on convenience fees
- Adopt transaction-based revenue streams and build new profitability models
- Include customer outreach, branding and marketing services as part of the e-government suite
- Focus on the five P's (see Figure 6-2):
  - Portal capabilities to create an online presence
  - Portfolio of e-government solutions, particularly G2C applications (tax filing, driver's license, permitting, licensing and so forth)
  - Partnerships that bring private sector technologies to public sector frameworks
  - Progression of service delivery channels to address different needs of Tier 1 through Tier 5 government jurisdictions (custom development, ASP and so forth)
  - Preparation for the next wave of e-government implementation (CRM, wireless and so forth)

Figure 6-2
Five P's of E-Government



Source: Gartner Dataquest (November 2000)

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